

HIV/AIDS surveillance in the Eastern Mediterranean Region

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ترصد العدوى بفيروس العوز المناعي البشري والإيدز في إقليم شرق المتوسط
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خلاصة بدأ الإبلاغ عن حالات الإيدز منذ بداية البرامج الوطنية لمكافحة الإيدز في إقليم شرق المتوسط . ولقد بدئ في ترصد فيروس العوز المناعي البشري بإجراء استقصاءات مصلية لفئات سكانية مختارة بين حين وآخر . غير أن هذه الاستقصاءات كان يشوبها الانحياز الإحصائي . ومن أجل الحد من هذا التحيز إلى أدنى مستوى ممكن ، تم تطبيق التردد المخفري على فئتين من الناس هما مرضى الأمراض المنقولة جنسياً والمترددات على عيادات رعاية الحوامل . وإلى جانب أعمال التردد يجري اختبار جماعات سكانية عديدة بفحوص فيروس العوز المناعي البشري وذلك بقصد اكتشاف الحالات على وجه الخصوص . ولما كان لترصد فيروس العوز المناعي البشري دور مهم في مجال الوقاية من الإيدز ومكافحته ، فينبغي توجيه الاهتمام الكافي لتحسينه ، بما في ذلك تطبيق طريقة الفحص مع إغفال الاسم ، إلى جانب تشجيع مشاركة القطاع الخاص .

ABSTRACT Reporting of AIDS cases began right from the inception of national AIDS programmes in the Eastern Mediterranean Region. HIV surveillance was initiated with ad hoc serological surveys of selected groups of population. However, these surveys suffered from statistical bias. To minimize this bias, sentinel surveillance was introduced in two groups: patients with sexually transmitted diseases and antenatal clinic attendants. Apart from surveillance, many other population groups are being tested for HIV, mainly for case-finding. As HIV surveillance has an important role in AIDS prevention and control, adequate attention should be paid to its improvement, including the use of unlinked anonymous testing and the participation of the private sector.

La surveillance du VIH/SIDA dans la Région de la Méditerranée orientale

RESUME La notification des cas de SIDA a commencé dès la mise en place des programmes nationaux de lutte contre le SIDA dans la Région de la Méditerranée orientale. La surveillance du VIH a été mise en route avec la réalisation d'études sérologiques *ad hoc* dans certains groupes de population. Toutefois, ces études ont souffert d'un biais statistique. Afin de minimiser ce biais, on a introduit la surveillance «sentinelle» dans deux groupes, à savoir, les personnes atteintes de maladies sexuellement transmissibles et celles se rendant en consultation dans les dispensaires de soins prénataux. En dehors de la surveillance, de nombreux autres groupes de population sont soumis à un test VIH, principalement aux fins de dépistage. La surveillance du VIH jouant un rôle important dans la lutte contre le SIDA, il faut accorder une attention suffisante à son amélioration, notamment avec l'utilisation de tests anonymes non corrélés et la participation du secteur privé.

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Introduction

Surveillance is the collection of epidemiological information of sufficient accuracy and completeness, with respect to the distribution and spread of infection and disease, to be pertinent to the planning, implementation and monitoring of programme prevention and control activities. In other words, surveillance is collection of information for action. Data from surveillance of the human immunodeficiency virus (HIV) can be used for various purposes including securing high-level commitment to action; targeting activities for different population groups and areas; programme monitoring and evaluation; development and testing of intervention methods; and mobilization and allocation of resources [1]. Surveillance should be an invariable part of any disease control programme.

After the first cases of acquired immunodeficiency syndrome (AIDS) were detected in the Eastern Mediterranean Region, a reporting system for AIDS was introduced. At the same time, the need for determining the prevalence of the causative organism of AIDS, the human immunodeficiency virus, was quickly recognized. Initially, ad hoc serological surveys were quickly carried out in specific population groups. These were subsequently refined to deal with statistical deficiencies, and sentinel surveillance was established to minimize the participation bias. This paper presents the status of HIV/AIDS surveillance in the Eastern Mediterranean Region.

HIV surveillance

HIV surveillance is being carried out in all countries of the Eastern Mediterranean Region. Earlier serological surveys suffered from statistical bias, mainly the unrepresentative

nature of the samples selected and participation bias. To minimize this bias, sentinel surveillance, selecting sentinel populations where blood is already drawn for other purposes, was established, as recommended by the World Health Organization (WHO) [2].

The main objective of sentinel surveillance is to monitor the trend of HIV infection over time and place. It is carried out by serial cross-sectional surveys in selected population groups using consistent methods. Although HIV sentinel surveillance can be clinic-based or community-based, the former is preferred because unlinked anonymous testing may be used, minimizing participation bias [3]. It may also strengthen the health infrastructure.

Because of easy accessibility, two population groups are of particular importance for sentinel surveillance. They are attendants of sexually transmitted disease clinics and antenatal clinic attendants. Where HIV prevalence in high-risk populations such as patients with sexually transmitted diseases is less than 1–2%, surveillance of low-risk populations such as antenatal clinic attendants is not technically necessary. Because of the association between HIV and tuberculosis, sentinel surveillance in tuberculosis patients is receiving increasing attention.

For sentinel surveillance, a small number of sentinel sites, usually three or four in number, are selected in the beginning. If the experience is successful, the number of sites is increased. From each site, 400 samples are collected within a six to eight week period once a year. In case of difficulty in collecting this number of samples, as has been observed in many countries, the number of samples may be reduced or the duration increased or both. Unlinked anonymous testing is recommended, to minimize participation bias.

Table 1 Prevalence of HIV infection among patients with sexually transmitted diseases in reporting countries of the Eastern Mediterranean Region, 1994-1995

Country	1994		1995	
	Tested	+ve (%)	Tested	+ve (%)
Bahrain	261	0	224	0
Cyprus	385	0	43	0
Djibouti	795	158 (19.9)	849	168 (19.8)
Egypt	853	0	540	0
Iran, Islamic Republic of	1291	0	216	0
Iraq	1954	0	968	0
Jordan	657	0	470	0
Kuwait	226	0	227	0
Lebanon	90	1 (1.1)	1	0
Morocco	1191	1 (0.1)	0	0
Pakistan	82	5 (6.1)	1457	4 (0.3)
Sudan	655	4 (0.6)	0	0
Syrian Arab Republic	500	3 (0.6)	1314	3 (0.2)
Tunisia	0	0	585	0
Republic of Yemen	44	1 (2.3)	22	1 (4.5)

Source: WHO Regional Office for the Eastern Mediterranean

Although not technically justified, many countries have continued to test other population groups, mainly for the purpose of case-finding. These groups include prostitutes, injecting-drug users, recipients of multiple blood transfusions, tuberculosis patients, prisoners, blood donors, incoming or outgoing long-term travellers and migrant workers. These are not representative samples, and the test results are of questionable value for the purpose of surveillance.

Patients with sexually transmitted diseases

The association between HIV infection and other sexually transmitted diseases has been reported by a number of studies [4-12]. Hence, patients with sexually transmitted diseases are the main group selected for

sentinel surveillance in the Eastern Mediterranean Region. Reports received from the Eastern Mediterranean Region countries indicate that HIV prevalence is increasing gradually in this group. While the prevalence is still low in other countries, it reached nearly 20% in Djibouti in 1994 and also in 1995 (Table 1). In most of the countries of the Region, sentinel surveillance faces a number of problems. The commonly encountered problems are as follows.

- Only a small number of samples can be collected, as most patients with sexually transmitted diseases avoid public sector clinics.
- Most female patients with sexually transmitted diseases attend gynaecology clinics while the samples are collected

from sexually transmitted diseases clinics only.

- The unlinked anonymous testing method has not been accepted in many countries, leading to participation bias.
- Not all staff involved in sentinel surveillance have been trained adequately.
- Supervision of field staff is irregular or lacking.
- There is a lack of motivation among sentinel site staff.
- There is inadequate coordination between the sentinel sites and testing laboratories.
- There are logistic problems related to supplies for blood collection, preservation, transportation and testing.

Antenatal clinic attendants

Except for Djibouti and possibly Sudan, countries of the Eastern Mediterranean Region do not qualify for sentinel surveillance of antenatal clinic attendants, as the HIV prevalence among high-risk populations, such as patients with sexually transmitted diseases, is still very low. Nevertheless, surveillance among antenatal clinic attendants has been carried out in other countries, probably because the samples can be easily collected. In Djibouti, HIV prevalence in this group, which was 3% in 1994, reached 6.7% in 1995 while the prevalence was virtually nil in all other countries.

Prostitutes

A high prevalence of HIV among prostitutes has been reported in a number of countries [6,12,13]. In the Eastern Mediterranean Region, prostitution is illegal except in two countries, and there is usually a denial of its existence although it does occur. Prostitutes are difficult to reach and highly mobile. They are mostly accessed through the

police. They are mandatorily tested in most countries when they are arrested or as a part of registration in the two countries where prostitution is legal. They were tested in 10 countries in 1994 and in eight countries in 1995. HIV prevalence in this group was 45% in Djibouti and nil in other countries.

Injecting-drug users

HIV infection among injecting-drug users has been recognized in over 50 countries [14]. The HIV prevalence in this group is notably high in the United States, southern Europe and south-east Asia [15-17]. In the Eastern Mediterranean Region, drug abuse is illegal but does exist, as elsewhere, although the exact extent is not known. Rehabilitation of drug users is lacking in most countries of the Region. Drug users are difficult to reach. They were tested in eight countries in 1994 and 1995. In 1994, positive results were found in five countries where the HIV prevalence ranged from 0.3% to 3.1%. In 1995, only one country (Tunisia) reported positive results, with a prevalence of 1%.

Blood recipients

Most of the early cases of AIDS in the Eastern Mediterranean Region were due to infected blood or blood products. Therefore, recipients of multiple blood transfusions as well as patients undergoing kidney dialysis are being tested in a number of countries. Such testing is recommended for case-finding but not for surveillance. Seven out of 12 countries reported positive findings in this group in 1994 while three out of nine countries did so in 1995.

Tuberculosis patients

A close association between HIV infection and tuberculosis has been established, each tending to aggravate the other [18-21]. Because of this association, the number of tu-

berculosis cases has increased markedly in some countries. At the same time, the prevalence of HIV among tuberculosis patients is also showing an increasing trend. Tuberculosis patients are easily accessible in the clinics. In the Eastern Mediterranean Region, 6755 tuberculosis patients were tested for HIV in 10 countries in 1994, and 235 of them (3.5%) were found positive in six countries. Nearly all (98%) of the positive cases were from two countries, Djibouti (prevalence 8.7%) and Sudan (prevalence 14.2%). In 1995, 5201 patients were tested for HIV in 11 countries, and 206 (4.0%) were found positive, 203 of them in Djibouti.

Prisoners

Prisoners are easily accessible and are mandatorily tested in a number of Eastern Mediterranean Region countries. In 1994, 8890 prisoners were tested in 11 countries, and 23 (0.3%) were found positive in five countries, with the prevalence ranging from 0.1% to 1.6%. In 1995, 6844 prisoners were tested, and 10 were found positive, all of them in Lebanon (prevalence 0.7%).

Blood donors

Blood donations are screened for HIV in all Eastern Mediterranean Region countries although the coverage is variable. Reports have been received from 16 countries. In 1994, 12 countries reported positive results. Two countries, Djibouti (prevalence 1.9%) and Sudan (prevalence 1.3%) accounted for 88% of the positive results. In 1995, 12 countries reported positive results, and the HIV prevalence was 2.4% in Djibouti, 1.9% in Somalia and 1.0% in Sudan.

Other groups

In addition to the above, many other groups were tested for HIV, most of them mandatorily. Notable among them are international

migrant workers and long-term travellers. Eight countries reported positive results among migrant workers in 1994 and in 1995 while the corresponding figures for travellers were five and four respectively.

AIDS surveillance

A number of AIDS case definitions has been suggested for the purpose of surveillance [22]. The completeness of reporting varies from country to country. In the United States, more than 80% of AIDS cases and 70–90% of HIV-related deaths are reported [23]. In countries with less sophisticated surveillance systems, AIDS case surveillance may suffer biases that affect interpretation [2].

In the Eastern Mediterranean Region, AIDS surveillance was initiated right from the inception of national AIDS programmes. Initially, the WHO clinical case definition was adopted [24,25] and later, HIV testing was added wherever such testing is available. Subsequently, the revised Centers for Disease Control (CDC)/WHO case definition was used [26]. A few countries now use CDC's revised classification and expanded case definition [27]. Guidelines have been prepared for diagnosis and reporting of cases and have been distributed widely. Doctors have been trained in diagnosis, reporting and management of AIDS cases. However, underdiagnosis and underreporting are considered to be quite significant, and only one quarter to one third of cases are estimated to have been reported.

Up to the end of 1995, a cumulative total of 3747 AIDS cases had been reported to WHO, from all Eastern Mediterranean Region countries except Afghanistan, which has not reported a single case so far. An additional 531 cases of AIDS-related complex

have also been reported. However, the actual number of AIDS cases is estimated to be between 12 000 and 15 000. An increasing number of new cases being reported every year indicates that the AIDS epidemic is spreading in the Region (Figure 1).

About three quarters of the reported AIDS cases were among males, and 90% of the total cases belonged to the productive age group of 15–49 years. Sexual transmission was the predominant mode of transmission accounting for 79% of the AIDS cases (heterosexual 74% and homosexual 5%). Transmission through blood and blood products, which mostly occurred at the earlier stages of the epidemic, was responsible for 13% of the cases. Five percent of the cases were among injecting-drug users and 2% were due to perinatal transmission.

The pattern of HIV transmission has undergone considerable change during recent

years. In 1989, only 17% of the reported AIDS cases were among females but the proportion reached 38% in 1994. Similarly, the share of heterosexual transmission increased from 67% in 1989 to 82% in 1994.

The Eastern Mediterranean Regional Office's activities

The Eastern Mediterranean Regional Office of WHO has promoted the establishment of HIV surveillance right from the inception of the national AIDS programmes in the Region. The Regional Office has so far organized three intercountry workshops to train the national staff in HIV surveillance; to develop and refine surveillance protocols; and to exchange experiences in the implementation of HIV surveillance.

The Regional Office has also provided technical assistance to countries to review and revise the surveillance system; to develop operational guidelines; and to train the staff of sentinel sites. In addition, the Regional Office has provided financial support for procurement of supplies and equipment required for HIV testing; funds for local training; and field supervision.

Discussion

Although the AIDS epidemic is still at an early stage in the Eastern Mediterranean Region, there is ample evidence that it is spreading rapidly. Effective prevention strategies and interventions should be implemented in order to slow down the spread of the epidemic. At the same time the spread of the epidemic should be closely monitored. HIV surveillance has an important role in monitoring the trend of the epidemic as well as in designing targeted intervention meth-

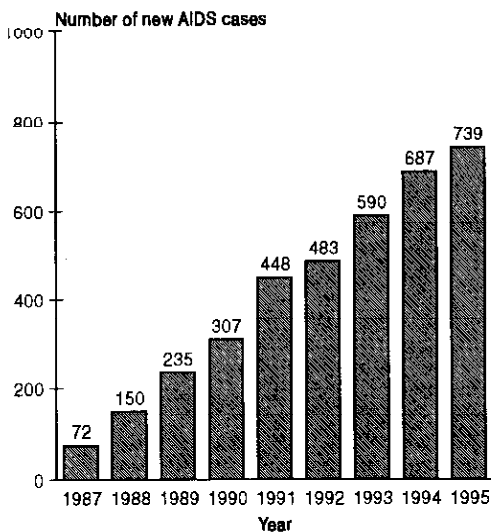


Figure 1 Number of new AIDS cases reported in the Eastern Mediterranean Region 1987–1995

Source: WHO Regional Office for the Eastern Mediterranean

ods. Sentinel surveillance is preferable because there is less statistical bias.

In order to generate reasonably useful information, sentinel surveillance needs to be improved and strengthened. It is wiser to have a small number of well managed sentinel sites than a large unmanageable number. In those countries where HIV prevalence in high-risk populations is very low, there is no need to conduct sentinel surveillance among antenatal clinic attendants and other low-risk populations. This is true for all countries of the Eastern Mediterranean Region except Djibouti and perhaps Sudan. Because of the low attendance of patients with sexually transmitted diseases at public sector clinics, the collaboration of the private sector should be sought. Similarly gynaecology clinics should be included to cover female sexually transmitted disease patients.

A lot of resources are being used for testing many different population groups. It is

time to review the use of such testing and to clarify policy about HIV testing as a whole. Whatever the policy, it is essential to be clear about the objective of the test and not to confuse objectives.

One of the problems in surveillance is the participation bias when a linked testing method is employed. Unlinked anonymous testing will reduce the bias. If case-finding is also desired, both linked and unlinked testing can be done concurrently. Linked testing will, of course, require informed consent and pre-test and post-test counselling. It should also be clear that mandatory testing has no technical justification except for blood safety.

In order for sentinel surveillance to be effective, adequate attention should be paid to improve such managerial aspects as training, motivation and supervision of staff; co-ordination among the participating institutions; and logistics.

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