

FACTORS AND FACTS IN HUNGARIAN HIV/AIDS EPIDEMIC, 1985–2000*

ISTVÁN DÖMÖK

“B. Johan” National Center for Epidemiology, Gyáli út 2–6, P.O. Box 64, H-1966 Budapest, Hungary

(Received: February 27, 2001; accepted: March 30, 2001)

In Hungary among others there were some special factors, which shaped the outcome of HIV/AIDS epidemic. (1) In the early period of pandemic the “iron curtain” delayed and limited the importation of HIV to Hungary. (2) In 1985, at the time of detection of first HIV infected persons the etiological diagnostic tools were already commercially available and laboratory facilities have been created immediately for HIV antibody tests in networks of blood banks, public health and venereological services. (3) Laboratory facilities together with introduced health regulations resulted in (a) elimination of possibility of nosocomial HIV transmission by blood, blood products and organ transplantation; (b) efficient case finding and contact tracing in population groups potentially playing a significant role in spreading of infection; (c) opportunities for voluntary HIV testing free of charge. (4) Broad scale education and information activities have been developed from the beginning by governmental and non-governmental organizations alike. (5) Parenteral drug abuse did not play a role in spreading of HIV, so far.

The above factors resulted in a slowly developing moderate epidemic. The facts are as follows. By the end of 2000 altogether 879 HIV positive (666 male, 100 female and 113 anonymous) persons have been notified, 377 (344 male and 33 female) of whom showed already the characteristic features of AIDS and 229 died. 29% of registered HIV positive persons have been foreigners originating from 56 countries. The cumulative incidence rate of AIDS was 38 per million population. 73% of Hungarian HIV positive persons and 72% of patients with AIDS belonged to transmission group of men having sex with men. The age of HIV positive persons at the time of detection was between 20 and 49 years in 81% and 72% of them resided in or around Budapest.

Keywords: delayed HIV importation, early measures, low HIV/AIDS cumulative incidence rates

* This paper was written to commemorate to the fiftieth anniversary of the foundation of the Hungarian Society for Microbiology.

Data on HIV/AIDS situation in different countries regularly published by the WHO, UNAIDS and European Centre for the Epidemiological Monitoring of AIDS [e.g. 1, 2, 3] like a number of Hungarian and other articles [e.g. 4, 5, 6] unanimously indicated that since 1985 Hungary have experienced a moderate HIV/AIDS epidemic with low annual and cumulative incidence rates. There were some publications, which mentioned also certain reasons for the favourable situation [7, 8]. Nevertheless a complete analysis of factors playing a role in and their effects on the course of epidemic have not yet been published. The aim of this review is to give account of all the factors and present the facts reflected by the epidemiological characteristics.

Special and common factors

It is well known that till the end of 1989 a constructed and legislative “iron curtain” existed in Hungary which made difficult for Hungarians to travel abroad especially in the early period of HIV/AIDS pandemic. At the same time it discouraged citizens of Western Hemisphere to come to Hungary either as tourists or as visitors looking for special amusements. That situation did not prevent, nevertheless certainly delayed and limited the importation of HIV to Hungary. This is why the first HIV infected persons could be detected only in 1985 and the first AIDS case in December 1986.

It was an advantage that when the spreading of infection became known in 1985 the laboratory diagnostic tools were already commercially available. Thus based on recommendation of a small expert group (which served for basis later on for the National AIDS Committee) the authorities immediately decided to allocate appropriate budget to create laboratory facilities for HIV antibody tests and surveys in networks of Blood Banks, of Public Health Services and of STD Outpatient Clinics. So that from July 1986 all the blood donations have been tested compulsorily for HIV in the Blood Banks and the alternative laboratories have also been ready to carry out the needed tests. Originally 36 laboratories were equipped in the network of Blood Banks and 12 in the other health services. One confirmatory laboratory has served for the Blood Banks and another one for the alternative laboratories. The number of laboratories has changed later on but the original rule – that only designated, accredited laboratories were authorised to carry out HIV tests – remained unchanged. There have been 146 establishments nation-wide for collection of blood samples for HIV tests including 3 counselling places where tests could anonymously be requested. In addition physicians in the health care service have been authorised to take blood samples for diagnostic

HIV tests if it could be suspected that the actually observed ill-condition was related to HIV infection.

In September 1985 a Ministerial Decree pronounced AIDS as a compulsorily notifiable disease and ordered to admit all the patients with suspected AIDS to the Central Hospital for Infectious Diseases, Budapest. Since 1986 the HIV tests have been made available for anybody free of charge.

In 1986 a methodical guideline signed by the State Secretary of Health and later in 1988 a Ministerial Decree entitled "Measures aimed at prevention of spreading of AIDS" has introduced the compulsory HIV tests for biological donations (blood, organs, tissues and seminal fluid) as well as for persons belonging to certain population groups which potentially may play a significant role in transmission of infection. These have been as follows. (1) Partners of detected HIV positive persons and those who might have been exposed to infection by them (e.g. newborns). (2) Patients attending STD Clinics. (3) Prostitutes arrested for an offence related to soliciting. (4) Prisoners on admission to detention centres. (5) Inmates of correction homes for adolescents. (6) Uncovered intravenous drug abusers.

Anonymous HIV tests have been made possible since 1988. Recent regulations ordered name based report of the cases with confirmed positive test results.

The following considerations served for basis of the above-mentioned regulations. In Hungary from the beginning HIV/AIDS has been viewed as a crisis in public health that had some important human right dimensions and not as a crisis in human rights that had some public health dimensions [9]. In agreement with Angell's opinion [10] it has been the basis of regulations that epidemiological problems should be distinguished from social ones and dealt with both simultaneously but separately. Infection control can only be made by epidemiological measures based on the knowledge of characteristics of given infection whilst social problems can only be solved by educational, legal and economic means. Based on this opinion health authorities have the duty to make efforts to break the chain of transmission of infection by all possible legal means. Simultaneously every kind of discrimination and stigmatisation has to be prevented and the strictest rules of medical confidentiality to be ensured. Protection should be provided both to HIV negative people – i.e. protection against infection – and to HIV positive people – i.e. protection against discrimination [11]. The latter being a social problem should be addressed accordingly.

From epidemiological point of view it is justified to make efforts for early detection of infected persons since it is the interest both of the infected individual and of the whole community.

Early identification of infection certainly results in benefits of the individual person because medical care and regular follow-up can be instituted (a) which gives an

opportunity to induce personal motivation for healthier life style and to avoid abuses as well as activities affecting the pathological processes; (b) which creates opportunity in time for highly active anti-retroviral therapy (HAART) resulting in longer symptom-free life and in prolonged survival; and (c) which can ensure the treatment of opportunistic infections as soon as they occur.

Early detection of infection and its appropriate management results in benefits to community as the probability of transmission of HIV infection can be reduced. (a) It is certain that personal counselling for the patients and for their partners leads to better motivation for safe sex behaviour than the general health promotional programmes in media. (b) HAART diminishes the viral load in the blood and in genital secretions, thus the likelihood of HIV transmission by blood and seminal or vaginal fluids will be diminished.

A wide range of HIV/AIDS prevention and control activities has been carried out since the establishment of AIDS programme. Intensive training of health care workers has been started already in the early period by publications, methodical guidelines [e.g. 12–15], and by lectures. Broad scale education, information activities have been developed for the general population, and for special population groups (e.g. for men having sex with men, for teenagers, for prostitutes and their clients, for prisoners, for immigrants, for tourists, for drug users and for HIV positive persons). In 1987 e.g. 4 million leaflets have been posted to Hungarian families dealing with the most important information on the virus, on its infection and on the preventive possibilities. In these activities both governmental and non-governmental organisations have taken part involving also the media.

It is certain that in recent years the illicit drug use has increased especially among adolescents and young adults. There are no signs, however, that spreading of HIV would have begun by parenteral drug abuse in Hungary, so far. Most recently strict regulation has been enacted to restrain the drug abuse.

Epidemiological facts

The first HIV positive persons were detected in 1985 and by the end of 2000 their number increased to 879 (Fig. 1). 766 of them have been registered with an identification code and 113 remained anonymous. It is of note that some of the anonymous persons are certainly included also in the coded group. The annual mean of newly detected coded HIV positive persons was 48 and their annual number varied between 16 and 74. The 113 anonymous HIV positive persons were uncovered during a 9-year period between 1989 and 1997. Their annual main number was 13. Among the

coded 475 HIV positive persons registered between 1985 and 1995 altogether 305 (64%) had been detected in connection with compulsory screening partly of those attending the STD Clinics and partly of partners of HIV positive patients [16].

Fig. 1. Cumulative number of detected anonymous and registered HIV positive persons by years, 1985–2000

666 of 766 registered HIV positive patients were males (87%) and 100 females (13%) (Fig. 2). Nevertheless the rate of female HIV positive persons was only 6% in 1990 and 9% in 1995. Thus a significant increasing tendency could be observed in rate of female patients in the last 10 years.

Foreign citizens have been in considerable number among the HIV positive persons registered in Hungary (Fig. 3). By the end of 2000 altogether 221 foreigner HIV positive persons originating from 56 countries were notified representing 29% of total number of registered HIV positive subjects. 49% of foreigners originated from 19 European, 37% from 25 African, 9% from 5 American, 5% partly from Asian (5) and partly from Pacific (2) countries (Fig. 4).

Fig. 2. Distribution of registered HIV positive persons by sex, 1985–2000

HIV infection of these persons was detected in connection with applications for university fellowships (especially submitted before 1990 by Africans), or for long-term and permanent residence as well as for repatriation. A number of them, however, came to Hungary directly for HIV testing owing to lack or difficulties in testing possibilities in their home countries (e.g. 50 HIV positive persons from Romania).

Analysing the transmission categories of registered 545 Hungarian HIV positive patients, it is clear that vast majority of them belonged to group of men having sex with men (Fig. 5). 395 of 545 HIV positive persons (73%) registered between 1985 and 2000 belonged to that risk group. There was, however, a significant decrease in rate during the recent years. In the period between 1996 and 2000 homo-/bisexual men represented 65% of registered Hungarian HIV positive patients in contrast to the former periods when their rates attained 76% (1985–1990) and 79% (1991–1995), respectively. Opposite tendency could be observed in cases with heterosexual transmission. The rate found between 1985 and 1990 was only 5%, whilst that between 1996 and 2000 attained 26%. In the early period of epidemic all the known 629 haemophiliacs had been tested for HIV and 28 of them proved to be positive (4.5%) representing 14% of HIV positive patients registered between 1985 and 1990.

Fig. 3. Citizenship of registered HIV positive persons, 1985–2000

Fig. 4. Distribution of HIV positive foreigners registered between 1985 and 2000 in Hungary by geographic location of their home countries

Since that time no new HIV positive cases have been found among the patients with haemophilia due to the fact that all the imported HIV positive clotting factor concentrates had been destroyed at the end of 1985 and since that only safe products have been administered. From 1986 to 1999 altogether 6,645,000 blood donations were

tested for HIV by the Hungarian Blood Banks and 26 of them proved positive (i.e. 0.39 per 100,000 donations). There were 2 injecting drug users detected as HIV positives. Both of these patients returned to Hungary after a long time period abroad, where they have contracted the infection. There is no indication that HIV infections would have occurred as a consequence of intravenous drug use in Hungary, so far.

In Hungary the first AIDS case was diagnosed in December 1986. That illness with rapid deterioration and death occurred after transfusion of HIV infected blood. By the end of 2000 altogether 377 patients with AIDS have been reported, 229 of whom died (61%) (Fig. 6). Since 1987, the annual number of newly reported cases varied between 7 and 46 with an annual mean of 25. Annual average of AIDS related deaths was 15.

Rate of patients with AIDS whose HIV infection was detected prior to their clinical manifestations attained 84% in the early period of epidemic and it remained 59% even in the period between 1997 and 2000 (Fig. 7). This may indicate that the real number of HIV infected patients in Hungary probably not more than double of the detected one.

81% of HIV positive and 79% of AIDS patients belonged to age groups between 20 and 49 years (Fig. 8). The highest number and rate (258 and 34%) occurred in age group between 20 and 29 years in case of HIV positive persons, while those (150 and 41%) in age group between 30 and 39 years in case of patients with AIDS. This reflects well the long average incubation period of AIDS.

HIV positive persons have been detected all over the country (Fig. 9). Nevertheless 72% of infected Hungarians were living in or around the capital city, Budapest at the time of their notification.

Comparing the reported cumulative incidence rates and the estimated rates of persons living with HIV/AIDS at the end of 1999 in Hungary to those in the world or in different parts of Europe based on data published by the WHO [17] and by the UNAIDS [2] the following results can be obtained (Table 1). The cumulative AIDS incidence rate in Hungary (35 per million population) is about 10 times less than the global rate (369 per million) and about 15 times less than the Western-European rate (532 per million). According to the estimation of UNAIDS the number of persons living with HIV/AIDS in the world was 34.3 million at the end of 1999, which represented a global rate of 5756 per million population. Number of Hungarians living with HIV/AIDS at the same dates was estimated by the UNADS to 2500, i.e. representing a rate of 248 per million, which is about 23 times, less than the global rate.

Fig. 5. Distribution of registered Hungarian HIV positive persons by transmission categories, 1985–2000

Conclusions

The presented data clearly indicate that the HIV/AIDS epidemic could have been kept on a moderate level in Hungary. Special factors such as the delayed importation of HIV, early possibilities of HIV diagnostics, regulations aimed at prevention of spreading of infection by epidemiological means with special regard to individual interests and confidentiality as well as lack of spreading of HIV by intravenous drug use together with certain common factors significantly contributed to the remarkably good HIV/AIDS epidemiological situation. The Hungarian practice was criticised repeatedly in the former years but the epidemiological facts indicate that the policy and programmes have been well oriented and effective, thus they rightly give incitement to continue the activities on the same lines.

Fig. 6 Registered AIDS cases and AIDS related deaths, 1986–2000

Fig. 7. Rates of patients with AIDS (%) whose HIV infection has been detected prior to their clinical manifestations, 1986–2000

Fig. 8. Distribution of registered HIV positive persons and of AIDS cases by their age at the time of notification.

Fig. 9. Geographic distribution of 542 Hungarian HIV positive persons reported by the end of 2000

Table I

Cumulative AIDS incidence rates based on cases reported by the end of 1999 [17] and estimated rates* of persons living with HIV/AIDS at the end of 1999 [2]*

Geographic area	Reported AIDS cases		Persons with HIV/AIDS	
	Number	Rate	Number	Rate
Global	2,201,461	369	34,300,000	5,756
Western Europe	213,627	532	520,000	1,295
Eastern Europe & Central Asia	9,085	23	420,000	1,073
Hungary	350	35	2,500	248

*per million of population

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