

Status of HIV / AIDS epidemic in Turkey

Tuğrul ERBAYDAR¹ [MD, PhD]
Nüket Paksoy ERBAYDAR^{2*} [MD, MSc]

1 Ankara University Faculty of Medicine
Department of Public Health

2 Hacettepe University Faculty of Medicine
Department of Public Health

* *Corresponding Author:* Hacettepe University
Faculty of Medicine Department of Public
Health

Sihhiye, 06100 Ankara, Turkey

Phone +90 (312) 324 39 75

e-mail erbaydar@hacettepe.edu.tr

ABSTRACT

Objective: This review is carried out to evaluate the changes in the epidemiological characteristics of HIV / AIDS epidemic in Turkey since 1985.

Materials and methods: The review draws on the cumulative data of reported HIV AIDS cases issued by Ministry of Health periodically. The figures in specific time periods (1985-1996, 1997-2001, 2002-2006, 2007-2011) were extracted to examine the changes in distribution of age, sex and possible transmission ways.

Results: At the end of 2011, the total number of HIV / AIDS cases in Turkey was 5224. There is an upward trend in incidence in the last decade and the highest number of new cases was reported in 2011 (n=699). Heterosexual relationship was the most common way of transmission and the majority of cases were male in all periods. Transmission through IV drug use and blood transfusion has decreased proportionally by the time. The highest numbers of cases were reported in 20-29 and 30-39 age groups and the number of cases in 40 and over age groups had been increasing.

Conclusion: The increasing number of incidences indicates the need for prioritizing HIV control activities, particularly promotion of safer sex practices. Surveillance system should be improved so as to evaluate the performance of control efforts.

Key words: HIV / AIDS, Turkey, Communicable disease surveillance

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Introduction

The estimated number of people living with HIV globally was 34 million at the end of 2010, according to the World Health Organization Progress Report 2011 on HIV / AIDS. Sixty eight percent of those cases were from Sub-Saharan Africa and 10% were 0 to 14 years of age children. Male to female ratio was 59% in Africa, 31% in America, 40% in Eastern Mediterranean region, 28% in Eastern Pacific region and the overall estimation was 50% all over the world. The global figures show that the incidence of HIV infection has decreased slightly since 1998, and also a significant decline in mortality has observed since 2006. This situation is mostly due to the decrease in incidence and mortality of infection in Africa. Both the incidence and mortality rates continue rising in Eastern Europe - Central Asia and the Middle East - North Africa regions, and the situation in other regions are characterized as relatively stable or varying [1].

According to the records of Ministry of Health (MoH), 5224 HIV cases were reported in Turkey between 1985 - the year of the first reported HIV case - and 2011 [2,3,4,5]. The Turkish MoH has made the statistical data on the distribution of HIV / AIDS cases accessible to media and other institutions, and updated relevant reports regularly. However, the data of MoH on the age distribution and possible transmission ways have been kept as cumulative data tables for all cases since the beginning of data gathering. Therefore, it is difficult to evaluate the changes in epidemiological characteristics of the outbreak using these cumulative data tables.

This review aims to evaluate the changes in epidemiological characteristics of HIV / AIDS epidemic in Turkey between 1985 and 2011 as well as the present status of these characteristics.

Materials and methods

Turkish MoH reports the age and sex distribution and possible transmission way of HIV-AIDS biannually. The cases in these reports are recorded by a notification system as a cumulative data. In this paper, this particular data was examined by grouping the cases into four time periods in which they have been reported. The 1985-1996 period is taken as a single time period due to relatively limited number of cases reported till 31 December 1996 (n=617) and the establishment of National AIDS Commission was in 1996 in Turkey. To calculate the data of 1997-2001 period, the number of cases reported until 31 December 1996 were subtracted from the number of cases reported as of 31 December 2001. The data gathered after 2001 was grouped into five-year time periods using the same extraction method. The number of cases, frequency distributions of age, sex and possible ways of transmission were calculated for each time period. The cases where possible way of transmission was reported both as IV drug use and homosexual – bisexual relationship were presented as a separate category in MoH reports. We redistributed those cases into 'IV drug use' or 'homosexual-bisexual relationship' categories proportionally. Furthermore, hemophilia patients whose total number was 11 as of December 31, 2011 were added into 'blood transfusion group'. The distributions of cases by province, clinical characteristics and survival status were excluded due to irregularities in reports.

Findings

The examination of reported HIV/AIDS cases during the selected time period demonstrates that there is an upward trend in incidence in the last decade. The highest number of new cases, as 699 was reported in 2011. Figure 1 shows the reported HIV / AIDS cases in Turkey between 1985 and 2011. In Table 1, the distribution of transmission way of HIV / AIDS cases was examined for each selected time period and it is observed that heterosexual relationship was the most common way of transmission.

After the exclusion of 177 cases which had no data on possible way of transmission, in 57.7% of 440 cases, the way of transmission was reported as heterosexual intercourse. This was the most frequently reported way in 1985-1996 period. The second was intravenous drug use (16.1%), the third was homosexual-bisexual relationship (14.8%), the fourth was blood transfusion (10.0%), and the fifth was from mother to child transmission (1.4%) (Table 1).

There were 946 cases detected in 2007–2011 period in which possible way of transmission was not reported. After the exclusion of these cases from the overall number of cases for the time period, it was determined that heterosexual relationship was on the first rank (81.3%), homosexual-bisexual relationship on the second (13.8%), intravenous drug use was on the third (1.9%), from mother to child transmission was on the fourth (1.6%), blood transfusion was on the fifth (0.8%) and nosocomial transmission (0.6%) was on the sixth rank (Table 1).

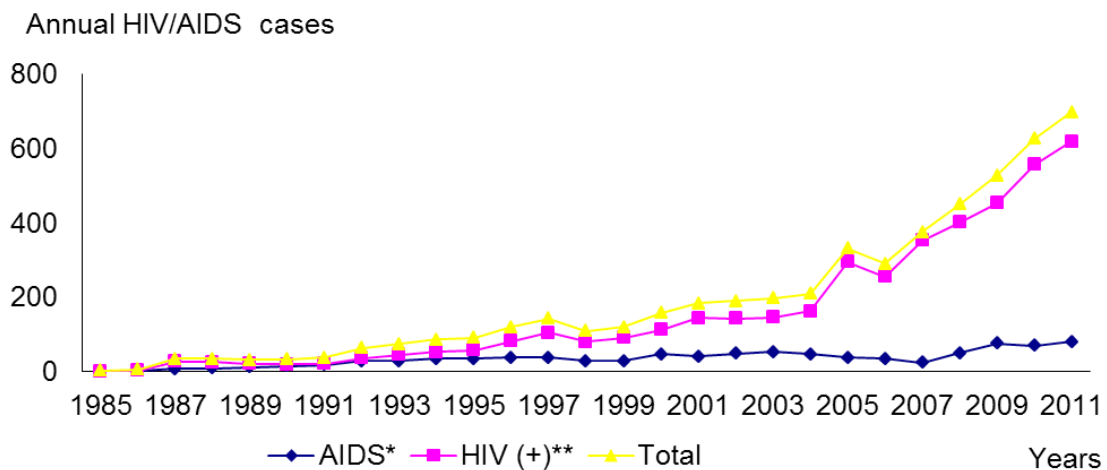
Table 1. Distribution of possible transmission ways of HIV / AIDS cases in Turkey according to reporting period (2-5)

Possible ways of transmission *	1985 - 1996		1997 - 2001		2002 – 2006		2007 – 2011	
	n	%	n	%	n	%	n	%
Heterosexual relationship***	254	41.2	421	59.5	668	54.8	1410	52.6
Homosexual - bisexual relationship**	65	10.5	40	5.6	105	8.6	240	9.0
Intravenous drug use***	71	11.5	26	3.7	25	2.1	33	1.2
Blood transfusion***	44	7.1	6	0.8	4	0.3	14	0.5
Mother to child**	6	1.0	12	1.7	25	2.1	27	1.0
Nosocomial	-	0.0	5	0.7	9	0.7	10	0.4
No data	177	28.7	198	28.0	383	31.4	946	35.3
Total	617	100.0	708	100.0	1219	100.0	2680	100.0

* In MOH statistics for few cases the possible way of transmission was stated as homosexual – bisexual relationship as well as intravenous drug usage. Those cases were distributed to these categories proportionally and also cases stated as hemophiliac patients were included to blood transmission group.

** Statistical significance of change in time (p) <0.05

*** Statistical significance of change in time (p) <0.001

Figure 1. Reported annual new HIV / AIDS cases in Turkey (1985 – 2011) (5)

* During reporting, cases which were clinically on stage of AIDS

** During reporting, HIV infection cases which were not clinically diagnosed as AIDS

Women constituted 22.9% of the total cases which were reported in 1985-1996, 37.4% in 1997-2001, 31.4% in 2002-2006, and 26.3% in 2007-2011 period (Figure 2).

When the age distribution of cases was examined, it was observed that the first two ranks were shared by 20-29 and 30-39 age groups, and the proportion of the age groups over 40 years of age was increasing by the time (Table 2).

Discussion

Although Turkey is among the countries with the lowest prevalence in the world, it is observed that

the incidence of infection tends to increase and the highest case number was detected in 2011 (n=699) (Figure 1).

In Millennium Development Goals report of Turkey (2010), the goal of Turkey was determined as to slow down the HIV epidemic and to reduce the annual number of new cases to 400 in 2011-2014 period [6]. However, current data shows that this goal has not been achieved (Figure 1).

The features of the HIV epidemic in Turkey have some similarities with the characteristics observed in Middle Eastern and North African countries according to the data presented in World

Table 2. Age distribution of HIV / AIDS cases in Turkey according to reporting period (2-5)

Age groups	1985 - 1996		1997 - 2001		2002 - 2006		2007 - 2011	
	n	%	n	%	n	%	n	%
0-9	10	1.6	13	1.8	23	1.9	27	1.0
10-19 **	17	2.8	26	3.7	25	2.1	21	0.8
20-29 **	185	30.0	223	31.5	288	23.6	649	24.2
30-39 *	207	33.5	205	29.0	334	27.4	884	33.0
40-49 **	69	11.2	100	14.1	200	16.4	595	22.2
50-59 **	44	7.1	47	6.6	130	10.7	318	11.9
60+ **	17	2.8	29	4.1	56	4.6	172	6.4
No data	68	11.0	65	9.2	163	13.4	14	0.5
Total	617	100.0	708	100.0	1219	100.0	2680	100.0

* Statistical significance of change in time (p) <0.01

** Statistical significance of change in time (p) <0.001

Health Organization's 2011 Report, although Turkey is included in the Europe and Central Asia region [1]. Intravenous drug use and unprotected sex have been reported as the major factors of transmission in Iran, Egypt, Algeria, Lebanon, Libya, Morocco, Oman, Syria, and Tunisia [1]. The figures of Turkey in 1985-1996 time period on the ways of transmission were similar to figures in these countries. Additionally, the characteristics of HIV epidemic in Turkey is similar to these countries regarding the low prevalence and increasing incidence of HIV in recent years. WHO 2011 report states that the HIV incidence and mortality are increasing in Northern Africa and Middle East countries where the prevalence of HIV is relatively low while these figures are declining globally [1].

As it was written in results section, the proportion of intravenous drug use among cases decreased from 16.1% in 1985- 1996 to 1.9% in 2007- 2011 period. The reason for this decrease may be related to a behavioral change among drug users towards less frequent needle sharing. The increase in the scope and number of awareness raising campaigns and policies in last decades may have caused this change. The ratio of ever needle sharing at least once was 35.9% in a study carried out in Turkey which examined 39 intravenous heroin users. The ratio of knowledge that HIV can be transmitted through needle sharing was 89.74% in this study [7]. In the extended report of this study, it was stated that 89.72% of all drug users was male [8]. Another study carried out in 913 heroin users, ever needle sharing ratio was 37.2% and the ratio of needle sharing in the previous month was 24.0% [9]. However, no data is available to evaluate if the frequency and intensity of the needle sharing behavior changed by the time. Another explanation of the proportional decrease of intravenous drug use among other ways of transmission may be based on the screening studies which were carried out among intravenous drug users in 1980s and 1990s. By intensive screening activities, the cases which were accumulated up to the 1990's might be diagnosed in a relatively short time; then this may have caused a high proportion of drug users among all.

Transmissions via blood transfusion have also showed a significant decrease over time and their proportion decreased from 10.0% to 0.8%. It is observed that the number of new cases also decreased in the same period.

The first comprehensive regulation "Blood and Blood Products Law No. 2857" to ensure the safety

of blood transfusion in Turkey legislated in 1983 [10], but unsafe practices continued until the 1990s. Safe blood transfusion procedures based on checking up the risky behaviors of blood donors and regular training of professionals working at blood transfusion centers were started after 1996 [11], and the first legislation which defined and standardized the safe practices enacted very lately (2007) [12].

While HIV prevalence increases in the community by the time, the decrease in transmission through blood transfusion shows that the safer practices of blood transfusion have increased. On the other hand, the significant number of new cases transmitted through blood transfusion points out to the necessity of continued improvement activities in this area.

The proportion of heterosexual relationship as a way of transmission had risen from 57.7% in 1985-1996 period to 81.3% in 2007-2011 period among the HIV/AIDS cases. At the same time periods, the proportion of the cases where the possible way of transmission was reported as a homosexual-bisexual relationship was detected as 14.8% and 13.8%, respectively. In Table 1, when the number of new cases taken into consideration, there is a significant increase in both groups in time, and it is seen that this increase is more prominent for heterosexual relationship.

The increase in the number of cases of sexually transmitted HIV infections has the most important proportion in the increase of total number of cases. The promotion of safe sex could have been useful to prevent the sexually transmission of HIV infection. However, there have been no clear and effective activities in action. Until today, there has not been any regulation for sexual education of young people in schools. An intense debate in the press and the public on the control of access to web sites with sexual content has been done, and various arrangements have been made to prevent the access to those sites. However, no publicly known attempt has been made to provide access to scientific based sexual knowledge. The number of sexually transmitted infections will inevitably grow if there is no public interest in or campaign to promote safe sex practices.

In Table 1, it can be seen that there has not been any effective activity to control mother to child transmission of HIV too. Antenatal care and preventive measures during delivery and postnatal period can largely prevent the mother to child transmission of infection. The number of mothers who

receive treatment according to guidelines of WHO to prevent mother to child transmission was reported as “0” in Turkey according to WHO 2011 Progress Report on HIV / AIDS [1]. Zero reporting means that there is no systematic activity recorded in this field in Turkey.

In Figure 2, it is seen that the proportion of female cases was the lowest in 1985-1996 period while it reached to highest level in the next five years period; and the proportions decreased in following periods again. The reason of the lowest proportion of women at the first period of the epidemic might be partly due to the considerable proportion of intravenous drug users among the new cases. The male dominance among drug users might influence the sex distribution in 1985–1996 period.

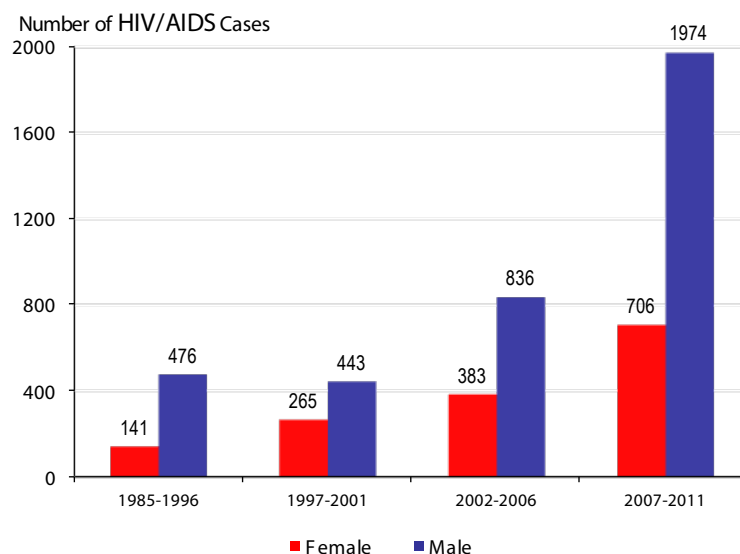
After the 1996-2001 period, the proportion of women among HIV / AIDS cases have decreased gradually. This decrease should be interpreted as parallel to the increase in the rate of cases over 40 years of age which was seen in Table 2. When sex distribution of cases according to age was examined in MoH data, it was noticed that the proportion of women significantly lower in older age groups. Thus, the decrease of the women’s proportion may be a result of the increase of older cases’ proportion by the time. Available data does not permit us to clarify whether the increase in the proportion of 40 and over age group (Table 2) was due to a change of sexual behavior of people or due to the implementation of HIV tests prior to surgical interventions in health care facilities more frequently which may increase

the detection of HIV / AIDS cases particularly in older age groups.

One of the most effective strategies for the prevention of HIV transmission is to provide high quality health services for HIV positive persons, including counseling and effective anti-HIV treatment. In Turkey, the number of patients receiving antiretroviral therapy have been reported as 1000 while the number of patients in need of anti-HIV treatment was reported as 1800 (between 1400 to 2200) in 2009 in WHO 2011 Progress Report on HIV / AIDS [1]. It is probable that, those numbers mentioned in the report were estimated values. Unfortunately, there is no explanation on how those estimations were made. The number of units in Turkey where HIV counseling and testing are provided was given as 1362 in 2010 in the same report [1]. However, the WHO 2011 report stated that there was no data about the number of people who were tested for HIV / AIDS in those centers in the same year [1]. In addition, those 1362 centers, mentioned in the report were the units, where only HIV tests can be conducted; while the number of units where counseling services are available was stated as 11 in Turkey’s Millennium Development Goals Report 2010 [6]. Currently, there is no broad and comprehensive HIV counseling training for employees of HIV testing centers and no procedures were defined how HIV counseling would be performed.

According to the decisions of the UN General Assembly in 2011, countries should improve surveillance systems, and all countries will be asked

Figure 2. Sex distribution of HIV/AIDS cases according to reporting period (2-5)



to provide detailed national data to evaluate their HIV surveillance systems beginning from 2012 [13]. Additionally, Turkey is a member state of the European Centre for the Epidemiological Surveillance of AIDS (EuroHIV) which is a network founded to develop coordinated surveillance of HIV epidemic in Europe; and EuroHIV encourages its members to improve their systems [14]. In this framework, Turkey needs to advance its surveillance system; and HIV prevention activities need to intensify for catching up the goals which were defined in line with the Millennium Development Goals [6].

Conclusion

The review of previously reported data has shown that there were significant changes in possible ways

of transmission of HIV / AIDS between 1985 and 2011. Examination of the data reveals the prominent features of the epidemic and the changing patterns. As the leading transmission way, sexual transmission plays a dominant role in HIV epidemic in Turkey. Sexual health education is needed in all sections of society especially among young people in order to prevent sexual transmission of HIV / AIDS. Measures to prevent mother to child transmission of HIV / AIDS should be integrated into maternal and child health programs.

It is recommended that MoH continue to regular reporting of HIV AIDS cases, and through improving the surveillance system, these reports should include more detailed data on HIV AIDS cases and the controlling efforts.

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