

Prevalence of HIV infection in young male candidates scheduled for military recruitment and whole population in Turkey

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Abstract

Objective: The aim of this study is to investigate the epidemiology and recent incidence of HIV infection among young male candidates scheduled for military recruitment and whole young population in Turkey, a country previously known as markedly low prevalence of HIV infection.

Materials and Methods: In the present study, the medical records from respective health institutions between the years 2007 and 2013 of male candidates scheduled for recruitment from recruitment offices serving under the National Defence Ministry of Turkish Republic, diagnosed with HIV infection and as such judged as unfit for service were requested.

Results: While the total number of new HIV/AIDS cases in 2000 was 157, a fourfold increase (589) was recorded in the year 2010, and reaching 1,068 by the year 2012. Considering, data from the national statistics, in the year 2013 (including the month of November), a total of 7050 HIV positive cases were reported and of all the cases 4,931 (72%) consisted of males. At the same time, an important part of this group falls into the 18-45 year group category.

Conclusion: As a conclusion, the prevalence of HIV infection in Turkey remains still low as compared to that of current global figures but the case numbers of HIV positive candidates of recruits and young people in the whole population are increasing alarmingly in significant manner due to every new coming year. So, programs targeted at identifying high risk groups and increasing the testing rates and preventive measures about HIV infection should be improved and developed

Key words: HIV infection, Acquired Immunodeficiency Syndrome, Military Personnel

Introduction

Human Immunodeficiency Syndrome (HIV) was first described in 1980 and a rapid increase in the number of cases across the globe has been observed over the years¹. Till date, it continues to be one of the most important infectious epidemics with tragic outcomes. Trends in adult infection differ among regions. Millions of people have already been affected by this disease in North America, Europe, previous countries of the Soviet-Russia (USSR) and sub-saharan Africa. The epidemic continues to disproportionately affect sub-saharan Africa, home to about 70% of all new cases (1). Most new HIV infections occur among sexually active middle aged males. Around the world, 5 million young people ages 15-24 are living with HIV (2). Young people ages 15-24 represent 41 percent of all new HIV diagnoses, and 890,000 acquire HIV each year (3). The aim of this study is to investigate the epidemiology and recent incidence of HIV infection among young male

candidates scheduled for military recruitment in Turkey, a country with a markedly low prevalence of HIV infection

Materials and Methods

In the present study, the medical records from respective health institutions between the years 2007 and 2013 of male candidates scheduled for recruitment from recruitment offices serving under the National Defence Ministry of Turkish Republic, diagnosed with HIV infection and as such judged as unfit for service were requested. The database was interrogated for information on their age, previous history of immigration in a foreign country/migration to a foreign country, use of anti-retroviral therapy (ART), how HIV was first diagnosed, and level of education.

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Therefore, personal communications regarding all HIV positive cases that were recorded in these recruitment offices between 1988 and 1999, specifically cases with a positive history of immigration in a foreign country (longer than 5 years; mostly European countries) and that of the first reported cases in military recruits in Turkey were sought (Personal communication with Ret. Mil. Med Drs; Eray Nedim ILICAK & Ömer Hilmi Alga-Kocaeli/TR).

In addition to the above, epidemiological data of all HIV cases for the past 30 years were obtained from the official website of the “Directorate General Primary Health Care Services and Communicable Disease Control, department of Sexually transmitted diseases of Ministry of Health, Republic of Turkey”. All reported cases of HIV infection from 1985 till December 2013 (Both AIDS and HIV positive cases) and their distribution according to age, gender and year are included in this dataset (Tables 1, 2) (4). The study was reviewed by the Council of Medical Ethics Gulhane Military School of Medicine & Hospital, Ankara, Turkey and ethical approval was received (July 03, 2013 / Session No: 23).

Results

The first HIV positive case in a military recruit was first reported in an individual who had a positive history of foreign country immigration and was undergoing training at the center for candidates of recruits, Burdur, Turkey in 1988. Screening for HIV positive cases at Burdur, continued till 1999 and more HIV positive cases with a positive history of foreign country immigration were identified over the specified period. During this 11 year period (1988-1999), between 2000 and 3000 candidates scheduled for military recruitment were screened for HIV infection annually. The officially confirmed sero-positivity rate of HIV infection (contracted from abroad) was found to vary between 1 and 4 candidates per 2000 to 3000 Turkish candidates of recruits having story of living abroad for at least 5 years. (Source: Data from personal communications).

Data on HIV positive cases was obtained from health records from military recruitment offices and retrospectively evaluated. Although this can be a reason for data loss, almost all data on HIV positive cases reported from 2007 to 2013 were retrieved for the study. Totally, 160 cases were detected as candidates of recruits having HIV infection. All the subjects enrolled in to the analysis were males. The mean age of the subject was 29.063 ± 8.044 and varied 17 to 49 years old.

Sixteen (10%) of the 160 cases were subjects who had completed a 4-year degree program from the university. The remaining were either primary or high school graduates. A positive history of work and foreign immigration in Germany, France, Holland and

Belgium and other European countries was present in one-third of the cases. The other two-thirds consisted of domestic cases (“autochthonous cases”). ART usage present in at least 17% (27/160) of the cases.

HIV sero-positivity was detected in 27.5% of the subjects during the diagnostic work up to investigate complaints such as weakness, long term diarrhea, lymphadenopathy in the head and neck regions, and genital warts. In another 27.5% of the cases, diagnosis was arrived at during laboratory investigations made after risky sexual contact and routine examinations conducted at cells and prisons. Diagnosis was encountered in 20% of the cases during the serological tests performed after blood transfusion, 25% of the cases during preoperative laboratory screening and in the course of carrier examinations.

Reported professional history of the subjects revealed >80% working in the entertainment, tourism or construction industry. While the annual rate of reported HIV positivity or AIDS cases among recruits varied between 1 and 4 in the period of 1988-1999 years, a marked increase was observed during the following years after 1999. In the year of 2013, the number of HIV positive cases among for about 500.000 candidates of recruits scheduled for recruitment had reached 37 (Figure 1). This means 7.4/ 100000 incidence rate. On the other hand in the same year the number of HIV positive cases among all Turkish population which is 76 667 864 person according to the most recent Census data (5) had reached for about 1200. This figure represents 1.56 / 100000 as an incidence rate

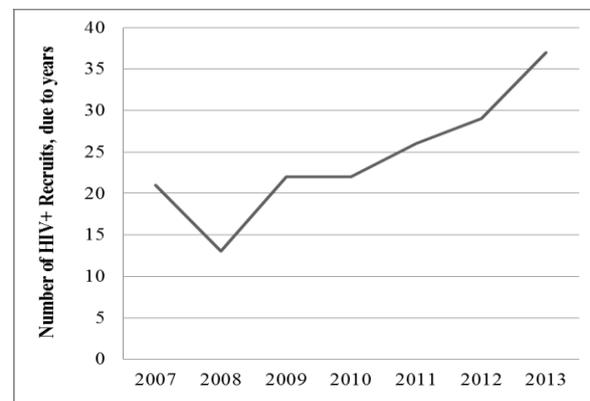


Figure 1: Annual HIV positive cases in male candidates scheduled for military recruitment in Turkey (2007-2013)

Table 1: Distribution of AIDS cases and HIV seropositivity across the years in Turkey (According to the statistics provided by the Health Ministry of the Turkish Republic)

YEAR	HIV(+)	AIDS	TOTAL
1985	0	3	3
1986	1	1	2
1987	32	8	40
1988	21	11	32
1989	22	11	33
1990	23	13	36
1991	27	24	51
1992	36	29	65
1993	47	33	80
1994	48	35	83
1995	59	28	87
1996	92	35	127
1997	95	38	133
1998	82	42	124
1999	89	28	117
2000	111	46	157
2001	137	45	182
2002	136	41	177
2003	136	46	182
2004	175	58	233
2005	246	46	292
2006	253	44	297
2007	345	24	369
2008	390	53	443
2009	437	66	503
2010	516	73	589
2011	632	78	710
2012	973	95	1068
2013 (First 6 months)	545	42	587
TOTAL	5706	1096	6802

Discussion

Since the first reported case of HIV in 1980, the widespread of this infectious epidemic across the globe has been observed and a marked increase in the number of cases annually is well known with over 35.2-38.8 million people carrying the infection as of the year 2012. Regions with a higher incidence and prevalence include; sub-Saharan Africa, south and South-Eastern Asia and Latin America. Additionally, HIV infection is also common and keeps its importance in the neighboring countries and regions of Turkey (Middle East, North Africa, Western Europe, Central Europe and Central-Asia) (1, 6).

Table 2: Distribution of Reported Cases Of HIV/AIDS By Age-Group And Gender. (01 October 1985-20 June 2013)

Age Groups	Male	Female	Unknown Gender	TOTAL
0	19	11		30
1-4	15	23		38
5-9	11	9		20
10-14	10	7		17
15-19	50	54		104
20-24	410	320		730
25-29	733	380		1113
30-34	867	325		1192
35-39	754	215		969
40-49	1090	245		1335
50-59	559	153		712
60+	275	69		344
Unknown	138	58	2	198
TOTAL	4931	1869	2	6802

The first case of HIV infection in Turkey was reported in 1985. According to global rates, a climb in the number of newly reported cases has been shown over the past years. The aim of this study was to investigate the prevalence of HIV infection in a potentially risky population group known to pose a greater risk to the spread of this fatal infection; young male candidates scheduled for military recruitment and also determine whether or not there an increase in the sero-positivity of HIV/ AIDS in Turkey currently exists.

Compared to previous years, attention has been drawn to an increase in the number of HIV positive cases among candidates of military recruits. One major drawback or limitation of the study is its retrospective nature which exposes it to the possibility of inaccuracies in data collection. Nevertheless, with the inclusion of official statistical data from the nationally recognized health authority, the Turkish Ministry of Health we managed to minimize the degree of error in data collection.

The first case of HIV infection in candidates scheduled for recruitment in Turkey was reported in individuals who had lived or worked abroad for a longer duration. These were individuals who applied to the Burdur Military Barracks for the fulfillment of the National Military obligation assignment in 1988, and tested positive for HIV infection during the screening tests conducted as part of military general health assessment exercise. Following that year screening tests for HIV infection among candidates of military recruits continued at the same center till 1999.

After the presence of HIV infection was well noted, screening tests at the Burdur Military Barracks was stopped followed by confirmatory tests that led to the drafting a protocol exempting all subjects who tested positive from military duty.

One of the striking findings from our study is that almost all of the subjects who tested positive for HIV infection (90%-100%) towards the year 2000 were individuals who had lived or worked abroad with Western Europe being the most common region of foreign abode. Domestic HIV positive cases among recruits began to be reported after the year 2000. At least one third of the subjects enrolled in the study had a positive history of foreign country immigration either as an immigrant or a worker. Within the years of 1961 and 1975, most young Turkish citizens migrated to European countries specifically Germany for work and greener pastures (7). During the years following this period, although the migration rate of Turkish Citizens from Turkey to Europe had decreased, a staggering figure of around 4 million Turkish Citizens are known to currently reside in Europe. Some of the citizens and their offsprings were known to have contracted HIV infection in most European countries before their return back to Turkey. On the other hand, currently an important proportion (17%) of all HIV positive patients (recruits and non-recruits) in Turkey are known to be foreigners (8). Another contributory factor was the illegal migration of Sex workers (Natasha) from the former Soviet Union and Eastern Europe to Turkey during the early 1990. These illegal migrants, who lived in the Northern part of the country with bigger cities like Istanbul being a major area of settlement, fostered the uncontrollable spread of HIV infection across all the regions in Turkey (9).

Also, the enormous boost in the Turkish tourism sector after 1985, contributed to the spread of the infection by foreign tourists whose numbers increased rapidly over the said period in the Aegean and Mediterranean coasts. Risky Activities such as unprotected sexual contacts among the natives and tourists promoted the widespread of HIV infection. In a tourist friendly country like Turkey, the number of visitors has increased greatly over the past decade to over 20 million annually. One out of four of these tourists originate from Eastern or Central Europe and Commonwealth of Independent States and Baltic States (CEE/CIS). The high prevalence of HIV infection in these neighboring countries (CEE/CIS), puts the Turkish population under risk (10). As of the year 2013, the number of visiting tourists in Turkey had increased two fold over the past decade reaching a record annual figure of 39.224.000 tourists. Therefore, this can be a contributory factor to the increase in the incidence of HIV infection among the youth In Turkey, and also specifically young male candidates scheduled for military recruitment.

The incidence of sexually transmitted diseases is known to be high not only among subjects who practice unprotected sex but also in drug addicts of intravenous drug use (11-12). Turkey is not known as a producer of drugs, however remains one of the countries which is used as a means of transport of drugs to other countries. The past years have seen a rapid rise in the number of young IV drug users in Turkey. As of 1999 the number of drug IV drug users in Turkey was reported to be only 2,682 persons. According to results from a recent study in 2010, the number of patients receiving care and treatment at various hospitals for the treatment of drug addiction and abuse has reached 135,000. A closer look at the figures during the past 11 years reveal frightening figures. Evaluation of the patients under treatment for drug abuse according to age and first exposure to drugs revealed the following; < 15 years (10.72%), 15-19 years (31.5%), 20-24 years (28.5%) 25-29% (14.2%), 30-34 years (7%) 35-39 years (4.8%) ("Turkish Drug Report-2010") (13). The situation reflects the role drug abuse and addiction among male recruiters has got to play in increasing HIV seropositivity. Findings from our study revealed that 25% of the subjects were IV drug users. In terms of HIV infection all risk factors discussed above are specifically reflective among males with the 18-45 age groups.

The Republic of Turkey's Ministry of Health, approved the inclusion of HIV/AIDS into the list of Notifiable diseases in 1986. According to statistical findings from the Turkish Ministry of Health only 3 case of HIV/AIDS cases were reported for the first time in 1985. A gradual annual increase in the number of cases was observed after 1985. The figures however reveal how serious the increase in HIV/AIDS seropositivity in Turkey is. While the total number of new HIV/AIDS cases in 2000 was 157, a four fold increase (589) was recorded in the year 2010, and reaching 1,068 by the year 2012. These figures in comparisons to the previous decade ("y of 2002") have seen a four fold increase (400%). Twenty six percent (26%) of the HIV positive cases are seen among the 15-29 year group. For this age group, evaluation of figures from the past five years (2007 till 2012) shows an annual increase of 86% in HIV seropositivity rates. Considering, data from the national statistics, in the year 2013 (including the month of November), a total of 7050 HIV positive cases were reported and of all the cases 4,931 (72%) consisted of males (14). At the same time, an important part of this group falls into the 18-45 year group category. A sexually hyperactive group category that fit best as candidates for military recruitment.

In Turkey, regulations regarding blood donation and blood banks of 1986, serological tests country-widely performed as part of pre-operative evaluation (by the y of 1987) and compulsory

serological tests for pre-marital counseling (y of 2003) have helped reduce transmission of HIV infection via the blood to blood/ blood products route to virtually zero. Most of the cases are transmitted via unprotected sexual intercourse. In this respect, Turkey falls on top of the list of risky countries due several factors it possess such as lack of sex education among the populated youth, a higher rate of migration by the citizens to abroad, enormous increase in the tourism sector, its location in terms of drug trade and an increase in IV drug users thus increasing the incidence and prevalence of HIV seropositivity in Turkey. Since the year 2013, an estimated number of 1200 cases recorded when compared to the general population appears certainly low according to the most of the countries in the world however an increase of around 15-35% new HIV positive cases annually is considerably high. With this increasing trend in HIV seropositivity, Turkey is now counted among regions like Eastern Europe and Central Asia where the spread of HIV is considered to be rapid. With this rate of increase, the number of cases will be expected to reach a level where the risk of transmission will remain high within the society (autochthonous cases) without the effect of exogenous factors such as migrating abroad. Since an increase in the prevalence of HIV/AIDs will be more evident among sexually active young males and as such affect them most, this effect on candidates scheduled for military recruitment has become inevitable. To site an extreme example, due to the high HIV seropositivity prevalence of about 30% in the general population of South Africa and some other countries, military recruits and their other companions are encountering problems recruiting and keeping healthy soldiers in their armies. In some South African countries, HIV positivity among soldiers is known to be around 10%.“A staggering seven out of ten military deaths in South Africa are AIDS-related, according to government figures released in 2002. Uganda’s defence force lost more soldiers to AIDS than to fighting in two decades of war with the Lord’s Resistance Army. In Zambia, AIDS-related illnesses have killed more military personnel since 1983 than died in all its military operations combined, including the bloody independence struggle. AIDS-related illnesses have killed mainly the more senior, experienced and difficult-to-replace ranks, due to the higher prevalence of HIV among older soldiers. Large numbers of soldiers on extended sick leave and unfit for active duty, further weaken military capability” (15).

Conclusion

As a conclusion, the prevalence of HIV infection in Turkey remains still low as compared to that of current global figures. However, the case numbers of HIV positive candidates of military recruits and young people in the whole population are

increasing continuously in significant manner due to every new coming year. Thus, continuous increase in the number of newly reported cases is a big concerning issue.

Programs targeted at identifying high risk groups and increasing the testing rates should be improved and developed. And since asymptomatic carriers form a greater part of infected patients, diagnostic procedures and protocols aimed at early detection of disease and risk reduction should be developed for early treatment and management in such patients. The need for organizations such as “Voluntary Counselling and test Centers” a Turkish nongovernmental organization founded in the year 2007 that aims at delivering free counselling and HIV testing to interested individuals of the society, to be continued and supported is vital. Involving candidates scheduled for military recruitment in blood donation campaigns and other screening programs could be useful in the early detection of HIV positive cases. The need to continue previously commenced programs such as the family planning education program for military personnel which was started in 2007 is increasing.

While the rate of HIV infection has been successfully kept under control in most parts of the world, a staggering rise in these rates in neighboring countries of Turkey demands that, individuals of whom most are young, visiting these regions as tourists or for work purposes should be educated and well informed regarding the risks and preventive measures involved. Giving more importance to sexually transmitted diseases as part of the primary health care program will be of unequivocal benefits (16).

For this, the ministry of health including all other health organizations and nongovernmental organizations have a big role to play. In addition the need for participation of an effective media should be evaluated

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