



HIV prevalence among men who have sex with men in Istanbul



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SUMMARY

Objectives: The re-emergence of the HIV epidemic among men who have sex with men (MSM) represents a serious health issue. This study aimed to assess the HIV prevalence among MSM in a very low prevalence population of a large city.

Methods: A public campaign to raise awareness of HIV infection and to provide access to anonymous testing was conducted in places frequented by MSM and through a mobile phone application. No identity information was requested from individuals contacting the call centre, and anonymous and free HIV testing was offered proactively. Those who agreed to have a test were provided a code number, which was used in blood sampling procedures.

Results: Of 1200 subjects who contacted the call centre, 197 consented to undergo HIV testing and visited the laboratory to give a blood sample. Twenty-five subjects were found to have a reactive ELISA result on two different occasions plus a positive Western blot test result. Thus, the HIV prevalence in this group of MSM was 12.7%.

Conclusions: MSM remain a high risk group for HIV infection in a low prevalence setting, and thus represent a key target population for diagnostic and therapeutic interventions.

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1. Introduction

The HIV epidemic has so far resulted in 70 million infections and 35 million deaths, representing a tremendous health problem.¹ According to World Health Organization (WHO) data, 36.9 million people worldwide were living with HIV by the end of 2014 and an estimated 0.8% of adults aged between 15 and 49 years were infected with the virus.² However, the disease burden varies considerably between countries and regions of the world.¹

The first case of AIDS in Turkey, a European country with an exceptionally low prevalence of HIV/AIDS, was reported in 1985.^{3–5} At the end of 2014, there were 9379 reported HIV-positive individuals, corresponding to a prevalence of approximately 1.2/10 000.⁶ The most recent figures again illustrate the continuing trend of a very low incidence rate in Turkey, i.e., 2.2/100 000/year, based on 1767 new cases reported in 2014.⁶ The most recent dataset from the Turkish Ministry of Health contains information on potential routes of HIV transmission rather than specific prevalence rates among certain groups,⁶ and no study to date has specifically looked

at the prevalence of HIV/AIDS among men who have sex with men (MSM) in Turkey.

The re-emergence of the HIV epidemic among MSM has posed a significant public health problem in several parts of the world, including Western Europe, North America, Australia, and China, since the mid-1990s.^{7,8} In line with these reports, data from 23 European countries showed an 86% increase in newly diagnosed cases of HIV infection among MSM between 2000 and 2006.⁹ Despite representing only a small proportion of the total population,¹⁰ MSM account for the majority of all new HIV cases each year in many countries, such as the USA.^{11,12} Furthermore, recent data suggest that in some regions of the world, including Europe, in contrast to the decline in HIV in the older MSM age groups (particularly those aged between 30 and 39 years), cases have doubled since 2003 in those aged between 20 and 29 years,¹³ thus a particularly productive age group is affected.

The initial dramatic improvement in quality of life and survival of infected individuals due to combination antiretroviral therapy (cART) has been proposed to have boosted the re-emergence of risky sexual behaviour, particularly among MSM.^{14,15} Furthermore, the high transmission rate associated with receptive anal intercourse, sexual behaviour patterns practiced by MSM, and social determinants may also play important roles in the disproportionate disease burden in this group of individuals.¹⁶ Social factors such as discrimination,

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criminalization, and other barriers to healthcare services represent obstacles for the implementation of prevention strategies,¹⁶ and thus may be partly responsible for the resurgence of HIV among MSM.

Considering the current resurgence of HIV infection among MSM, this study aimed to assess the HIV prevalence in this population in Istanbul, Turkey, which has one of the lowest HIV/AIDS prevalence rates in Europe.

2. Methods

This study was designed and conducted by a non-governmental, non-profit organization “Pozitif Yasam Dernegi” (Positive Living Association) in accordance with the current legislation in Turkey. This organization is actively involved in raising awareness of HIV. The study investigators took part in the analysis, interpretation, and documentation of the findings. The initial step involved a public campaign to raise awareness of HIV infection in bars, cafes, and similar entertainment places frequented mostly by MSM. The campaign-related activities included placing banners, distributing handouts, and embedding banner ads in the mobile cell phone application ‘Hornet’ used by these individuals for socializing. The importance of testing, and particularly of early diagnosis in high risk groups, was highlighted in all of these communication materials, and a call centre number was provided for those wishing to undergo anonymous testing.

Telephone calls were responded to by a single non-physician volunteer who has regularly taken part in similar public campaigns endorsed by the Positive Living Association throughout the past 10 years. For the purposes of the study, prior to the initiation of the campaign, training was provided to the call centre volunteer on the content of the information to be conveyed during the call, as well as on how to address questions or concerns that could be raised by the participants.

Throughout the study period, no identity information was requested from individuals calling the call centre, questions regarding HIV were answered, and anonymous and free HIV testing was offered proactively during each call. Those who agreed to have a test were provided a code number by the call centre volunteer. This code number was used to access blood sampling procedures at a contracted private laboratory, where anonymous testing could be undertaken. Subsequently, the subjects could obtain information on the test results by personally attending the test laboratory. No identity information was requested in any of these steps. If the initial ELISA test suggested a positive result, the subject was asked to give a second blood sample when he or she returned to the laboratory to get the result of the first ELISA test; all of these participants agreed to give this additional sample. This second sample was used for repeat ELISA as well as for a confirmatory Western blot (WB) test. Thus, HIV positivity was defined as two positive ELISA HIV tests (Bioelisa HIV 1 + 2 3.0 Kit, Biokit, Spain) confirmed by WB test. At that point, if the confirmatory test yielded a positive result, then identity information was requested from the individual when he or she returned to the laboratory to get the second set of test results, since HIV/AIDS is a notifiable disease in Turkey.

Those with a positive WB test were referred to appropriate health centres and the health authorities were notified. At the initiation of the therapy, demographic data were also collected.

3. Results

Over a 10-month period (March 2015 to December 2015), 1200 subjects called the call centre to receive advice on anonymous HIV testing. Only 197 of these subjects consented to undergo HIV testing and visited the laboratory to provide a blood sample; the remaining 1003 individuals declined to have the test

despite the provision of information. Of the 197 subjects who underwent the test procedures, 26 were found to have a reactive ELISA result on two different occasions. The confirmatory WB test was negative for only one of these 26 subjects, and confirmed the HIV positivity for the other 25. These 25 individuals were referred to the appropriate health centres for treatment. The subject with a negative WB test result was an Uzbek individual who had entered Turkey illegally and did not attend for follow-up testing, although the importance of testing was explained. All HIV-positive subjects with HIV-positive test results were MSM, reported unprotected sex in their sexual relationships, and had multiple partners. Four patients were foreigners who had entered Turkey through illegal routes and lacked the appropriate permission documents. Thus the HIV prevalence in this cohort of MSM was 12.7%.

4. Discussion

Despite decades of HIV research and programs, studies on HIV prevalence among MSM are relatively scarce. However, the resurgence of the epidemic among MSM in different parts of the world has recently prompted increased efforts to determine the HIV disease burden in this group of subjects. This study was performed to determine the prevalence of HIV among MSM in Istanbul, Turkey, which has one of the lowest HIV/AIDS prevalence rates in Europe.

Globally, the prevalence of HIV among MSM is high, with reported prevalence rates ranging between 3% and 25%.¹⁶ Prevalence rates are particularly higher in the countries of Sub-Saharan Africa, the Caribbean, North, Central, and South America, and East Asia as compared to Europe, the Middle East, North Africa, Oceania, and Central Asia, where the prevalence rates have been reported to be less than 10%.¹⁶ On the other hand, in the Middle East and North Africa (MENA), much lower prevalence rates have been observed. For instance, the prevalence of laboratory-confirmed HIV was 0.2% among 468 MSM in Jordan in a 2010 survey, which is the only study examining this population from that country.¹⁷ Also, in two separate studies from Beirut, Lebanon, respective prevalence rates of 1.5% and 3.6% for HIV positivity were reported among two MSM populations. However, it should be stressed that the authors did not consider those two studies truly representative of MSM in Beirut and indicated the need for additional epidemiological data to better delineate the actual HIV prevalence in this population.¹⁸ In Central Asia, the majority of the information on HIV prevalence in MSM has been derived from national surveillance, Joint United Nations Programme on HIV/AIDS (UNAIDS) reports, and UN General Assembly Special Session (UNGASS) indicators.¹⁹ Accordingly, HIV prevalence in the region ranges between 1% and 2% in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan, and is 6.8% in Tashkent, Uzbekistan. Mongolia has a higher figure (10%), and there was a marked increase between 2005 and 2011 from 2%.¹⁹ However, the majority of reports from Central Asia are hampered by a lack of detail on the methodology, sample size, and even location of the studies.

A 2014 study investigated patterns of HIV transmission in south-eastern Europe (Albania, Bosnia and Herzegovina, Croatia, Montenegro, former Yugoslav Republic of Macedonia, Serbia, and Slovenia) and reported that MSM represented more than half of HIV-positive cases in Serbia and around 70% of cases in Slovenia and Croatia.²⁰ A recent study from Turkey investigated the proportion of MSM among HIV-positive individuals and found high figures ranging between 30% and 40% over the last decade.²¹ However, according to the previously mentioned south-eastern Europe study,²⁰ HIV prevalence ranges between 0.7% and 6.1% among MSM. The present study on the other hand found a prevalence rate of 12.7% among MSM. However, the results of these

studies are not comparable at all. The present study was the result of a public awareness campaign and the number tested was very small; thus it is very difficult to comment on this prevalence and make direct comparisons with HIV prevalence rates among MSM in other countries. In addition, subjects were recruited on the basis of an awareness campaign, so individuals with the greatest awareness and increased risk factors (e.g., recent high-risk behaviour) might have preferred testing; this would have resulted in an overestimation of the HIV prevalence among MSM.

The present study data show that the prevalence of HIV determined among MSM in a major metropolitan city with an exceptionally low HIV prevalence (Istanbul) is unexpectedly high, which may be due to a recent increase or a continuing trend over the last decade. However, such a trend is not reflected in official figures, which may be explained by non-disclosure due to the fear of stigma for MSM.

Many factors, including a lack of well-designed studies, social barriers to governmental/non-governmental surveillance programs in specific regions, selection bias, and region-specific attributes such as stigmatization preventing reliable access to target populations, make it very challenging to perform meaningful direct comparisons between studies examining the prevalence of HIV among MSM. The sample population of the present study may be considered as being subjected to less intense discrimination practices due to the fact that Istanbul is a large metropolitan city and shows a relatively high degree of tolerance to different sexual preferences. However, it should be emphasized that the sample may not be representative of the MSM population in Istanbul or in Turkey, since attitudes towards homosexuality vary significantly across cities and even across different parts of a particular city. Thus the findings in this study may be subject to a selection bias. Apart from the possible selection bias, this marked discordance between MSM and the general population with respect to the HIV prevalence rates in this study may be explained by a number of factors, such as unprotected sex practices, high number of sexual partners, concomitant substance or alcohol abuse hampering preventive measures, and other social determinants such as the presence of small closed networks. An in-depth exploration of these factors was not performed in the current study and may be a subject of future studies in the region.

Over the years, several studies have examined the change in severity of the HIV epidemic among MSM. These data have generally pointed to a global resurgence of the HIV epidemic in this group of individuals. For example, in an Italian study examining HIV trends among 1862 seronegative MSM over a 25-year period (1984–2010), the incidence rate was 5.2/100 persons/year in 1986, 9.2/100 persons/year in 1992, declining to 1.3/100 persons/year in 2001, with a progressive increase thereafter, reaching a peak in 2009 at 11.7/100 persons/year.¹⁴ Supportive findings were reported in a European study published in 2013, in which new HIV-positive cases among young MSM (20–29 years) nearly doubled over the years 2003–2012, despite the fact that HIV cases remained stable in the general population of the European Union.^{13,22} Similarly, a recent study from Turkey showed that there was a male predominance among newly diagnosed HIV-positive individuals, with further increases in the proportion of males in recent years, and the mean age was lower at the end of the study.²¹ Considering the high proportion of MSM among HIV-positive individuals, it appears that there has been an increasing trend of younger MSM newly diagnosed with HIV in Turkey over the last few years.

The transmission of HIV through male-to-male sexual contact is the most common mode in most European countries.²³ Moreover, in a recent study from Central Europe, transmission through male-to-male sexual contact was the most prominently increased mode of transmission, particularly in West and Central Europe.²⁴ Also,

increases in HIV infection have been found among MSM during recent years in China. The overall prevalence of HIV in the Pearl River Delta in China among MSM increased from 4.7% to 11.4% between the years 2009 and 2013.²⁵ Again, in Poland, the rate of new HIV diagnoses among MSM per million men increased from 2.5 in 2000 to 33.8 in 2011.²⁶ In contrast, in a previous report from Turkey, no such resurgence of HIV particularly driven by MSM was found.²¹ However, that study did not investigate the incidence of HIV among MSM, rather it examined the ratio of MSM among HIV-positive individuals.²¹ Examining robust data over time may reveal an increased prevalence of HIV among MSM subjects, similar to other countries in the region.

On the other hand, official figures based on notifications indicate a low proportion of homosexual transmission but a possible increase in MSM among newly diagnosed patients in Turkey.^{6,27} A recent review points to a 10-fold increase in the number of reported cases among MSM between 2005 and 2014 in Turkey.²⁴ However, inquiry about sexual practices at the time of notification after a positive test result might be misleading, thus these official figures may not be as accurate as clinical study findings. Official figures based on passive surveillance announced by the Ministry of Health seem to suffer flaws, and the high rate of HIV in the MSM population found in the present study indicates an urgent need to investigate vulnerable populations and develop appropriate strategies for prevention and management.

Previous studies have utilized a number of different methodologies to gather data on HIV prevalence among MSM, including time location sampling,²⁸ outreach programs with street encounters,²⁹ integrated behavioural and biological assessment (IBBA) surveys,³⁰ and venue-sampling, interviews, and HIV testing in cross-sectional studies.³¹ The current study utilized a collaborative awareness campaign organized by a non-governmental, non-profit organization to target MSM at the social network level, and data were evaluated by a group of medical specialists with expertise in the diagnosis and treatment of HIV infection. For the purposes of the study, banners, handouts, and banner ads, etc. were used. Of the sample population of 1200 individuals, 197 consented to and underwent HIV testing. As the figures show, only a small proportion of subjects agreed to undergo HIV testing.

Previous studies investigating the perceived discrimination among lesbian, gay, bisexual, and transgender (LGBT) individuals in Turkey found high rates of perceived direct and indirect discrimination.³² Also, the traditional understanding of gender and gender roles in Turkish culture might have placed a restriction on the desire to have a test due to experiences of internalized sexual stigma, as suggested by other authors from Turkey.³³ Collectively, together with the fear of stigmatization, this might have reduced the willingness to undergo testing. Since the study volunteer receiving the initial telephone calls was adequately trained and experienced, it is believed that the role of insufficient or ineffective calls in limiting the willingness to participate would have been minimal.

Despite being a country of exceptionally low HIV prevalence, the substantial effect of the HIV epidemic in MSM requires better HIV prevention strategies in Turkey. Unfortunately, the stigma associated with sexual preferences, discrimination, and criminalization, along with restricted access to healthcare facilities, still hinder the disclosure of sexual preference in many countries, including Turkey, and this may result in underreporting of MSM transmission. Also, the high per-act transmission risk, high number of partners, and other social factors may play central roles in the disproportionate disease burden in this group of individuals.¹⁶ Another worrying issue is the fact that the largest increase in new HIV infections has occurred among young MSM in the last decade in many parts of the world. Thus, HIV testing and counselling services need to be promoted and made more accessible to key

populations at higher risk, allowing earlier diagnosis and initiation of HIV treatment.

A major limitation of this study is the absence of a randomly selected group, which could have led to a selection bias towards those who are more likely to have a positive test result and hence an overestimation of the prevalence rate. Thus, this population may not accurately reflect the general MSM population and the results may not be generalized to the country level. However, considering the challenges experienced in obtaining direct information on male–male sexual behaviour, these data still seem to provide a reliable snapshot of the current status of HIV positivity among MSM in Istanbul, the most populous city of Turkey.

In conclusion, MSM remain a high risk group for HIV infection in the low prevalence setting, most probably related to patterns of sexual practice and other associated social factors, thus representing a key target population for diagnostic and therapeutic interventions.

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