

Research Article

HIV Prevalence and Risk Behaviour of Persons HIV-Tested for Preventive Reasons in Slovakia

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Keywords

• HIV; MSMW; Prevalence; Surveillance; Risk behaviour

Abstract

Introduction: HIV surveillance linked with socio-behavioural study is an important tool for understanding the HIV epidemic.

Aim: To evaluate HIV prevalence and risk behaviour of clients voluntarily asking for HIV testing.

Methods: Anonymous and voluntary HIV testing was conducted between January 1 2017 to December 31 2017 in clients asking for HIV testing for preventive reasons in NRC for HIV/AIDS prevention in Bratislava. Self-administered questionnaire was used to collect behavioural data. HIV testing was provided by ELISA HIV Ag/Ab tests. All reactive samples were confirmed by western blot.

Outcomes: HIV prevalence of tested persons was calculated and basic characteristic of responders, their attitudes, risk behaviour and other STIs in the past were analysed by SPSS 19 with the chi-square test and t-test.

Results: Study was conducted among 638 people (75% men and 25% women). HIV prevalence was 2.2%. More clients were HIV tested under their name than anonymously (65.0% vs. 35.0%), men preferred testing under their name more often than women (37.1% vs. 27.3%), respectively. Sexual orientation was as following: 55.8% heterosexuals, 29% men having sex only with men (MSM), 9.1% men having sex both with men and women (MSMW). Comparing MSMW, MSM and men having sex only with women (MSW), MSMW more asked for anonymous testing (44.2% vs. 29.0% vs. 41.2%), had more than 2 sexual partners over the course of 12 months (84.6% vs. 72.8% vs. 60.5%) and proclaimed least often condom use during their last sexual intercourse (38.5% vs. 60.1% vs. 46.3%), respectively.

Conclusion: Results of our study highlight the need to focus HIV prevention on MSMW, who represent a hidden high risk group in Slovakia.

INTRODUCTION

The HIV epidemic represents an important public health issue in Europe. Epidemiological evidence suggests that sex between men (MSM) continues to be the main mode of HIV transmission accounting for 40% of all new diagnoses from 2017 to 2018 across the European Union (EU) and the European Economic Area (EEA) [1,2]. International agencies (namely, UNAIDS, WHO, ECDC) have called for countries to use robust surveillance and monitoring systems that adopt common and standardised indicators [3]. In 2014, guidelines have been developed to enhance reporting of key Core indicators for Global AIDS response progress reporting (GARPR) [4], which were later modified into a set of standardised items - Global AIDS Monitoring indicators (GAM) - widely and jointly promoted by the WHO and UNAIDS [5].

The Slovak Republic is one of European countries with relatively the lowest HIV prevalence. Since the beginning of the HIV/AIDS epidemic in the Slovak Republic in 1985 to the end of 2017, a total of 970 cases of HIV infection have been registered in both Slovak citizens and foreigners. Women represent about one-fifth of all registered HIV cases. However, in the last years an increasing trend in the incidence of new cases of HIV infection has been observed and the number of people living with HIV

infection was also increasing rapidly (to a total of 991 Slovaks and 186 foreigners to the end of 2019). From 1985 in Slovakia the most of confirmed cases was recorded in the group of men having sex with men (MSM), in 2017 it was 64.7% [6]. Therefore, most of surveillance studies have been focused on MSM and only little attention was paid to the general population and/or to more specific subgroups, like MSMW (bisexual males or men who have sex with both men and women, also referred to as behaviourally bisexual men).

Our study was focused on persons asking for HIV testing for preventive reasons in Slovakia, with the aim to describe HIV prevalence and risk behaviour related to HIV and other sexually transmitted infections and to analyse explanatory variables of risk for HIV and other STI acquisition among this group of people in respect to GARP/GAM.

MATERIAL AND METHODS

The study was conducted in the National Reference Centre for HIV/AIDS in Bratislava (NRC) from January 1 to December 31 2017. Clients voluntarily asking for HIV testing for preventive reasons and simultaneously filling an anonymous self-administered pen-and-paper questionnaire were included in the study. HIV testing was provided by ELISA tests Genscreen ULTRA

HIV Ag-Ab, BioRad and Murex HIV Ag/Ab Combination, Abbott, Ag/Ab test. All reactive samples were confirmed by HIV blot 2.2., MP Diagnostics. All obtained data were analysed by SPSS 19 with the chi-square and t-test. Analysis of specific questions was carried out according to at that time used GARPR and later used GAM.

RESULTS

Basic characteristic of respondents

In the study 638 participants (75% men and 25% women) have asked for HIV testing for preventive reasons and simultaneously filled anonymous questionnaire in NRC, out of them 65.4% were tested under their name and 34.6% were tested anonymously. The average age of respondents was 31.8 ± 9.2 , while women (34.5 ± 10.5) were significantly older than men (30.9 ± 8.6), $p < 0.001$. Most of participants (39.0%) were aged 27-36 years, less 17-26, 37-46, 47 and more (33.7%, 21.0%, 6.3%, respectively). The youngest clients were a girl and a boy 17 years old, the oldest woman was 76. Most clients were single, less married, divorced, widower and unknown marital status (81.5%, 8.2%, 5.6%, 0.3% and 4.4%, respectively). Most respondents were living in Bratislava (69.4%), least abroad (2.0%). Out of 638 respondents 52.9% declared university degree education, 41.9% secondary and 3.3% primary school degree, 1.9% did not answer this question. Sexual orientation of study attendees was as following: 55.8% heterosexuals, 29% MSM, 9.1% MSMW. Heterosexual (both sexes) were significantly more often married than MSM and/or MSMW ($p < 0.01$). MSMW and MSM were married 2 out of 58 and 1 out of 185, respectively.

HIV prevalence and other STIs in the past

In our study HIV infection was confirmed in 14 (2.2%) persons (GAM 1.14), out of them in 4 women and 10 men. Concerning other STIs in the past, 2.2%, 2.4%, 1.1%, 0.6% and 3.6% respondents stated they had suffered from *T. pallidum*, *N. gonorrhoea*, HBV, HCV and other STIs in the past, respectively. Among those who answered (53%), there was no significant difference between sexes in STIs but as for men, MSM suffered from other STI in the past significantly more than MSMW and men who have sex with women (MSW) (58.3%, 8.3% and 22.2%, respectively), $p = 0.035$.

More clients were HIV tested under their name than anonymously (65.0% vs. 35.0%) and significantly more men asked for anonymous testing than women (37.1% vs. 27.3%, respectively), $p = 0.024$. As for men, significantly more MSMW asked for anonymous testing than MSM and MSW (44.2% vs. 29.0% vs. 41.2%), respectively. Additionally, 50.8% respondents were tested for HIV in the past. Participants tested under their name had undergone testing in the past more often than those tested anonymously (58.3% vs. 47.0%, respectively), $p = 0.018$. Out of 605 of women and men aged 15-49 just 23.6% received an HIV test in the past 12 months and knew their results (GARP 1.5).

Only 23.5% of respondents were tested for HIV in the last 12 months and knew their results (GAM 1.13), whereas significantly less heterosexuals (both sexes) than MSM and MSMW (17.1% vs. 33.5% vs. 31.0%, respectively), $p < 0.001$. Concerning just men, more MSMW and MSM were tested anonymously comparing to MSW (34.6% vs. 33.9% vs. 20.4%, respectively), $p = 0.042$.

Attitude and behaviour

Only about one quarter of MSM (GARP 1.11), MSMW and heterosexuals were reached by HIV prevention programmes (25.0% vs. 23.0% vs. 23.7%, respectively) (GAM 1.11). More than half (63.3%) the respondents did not know the HIV status of their recent sexual partner, 12.4% knew their HIV-partner was negative. Only 2.2% respondents knew that their sexual partner was HIV-positive, rest of the clients did not answer this question.

Most of respondents (51%) stated the age of their first sexual intercourse to be at 16-20 years of age. Out of 152 young women and men aged 15-24 13.2% declared sexual intercourse before the age of 15, 19.1% respondents did not answer this question (GARP 1.2). Women at the time of their first sexual intercourse were significantly older than men ($p = 0.017$) and no other significant relationship between sexual orientation/behaviour and age of the 1st sexual intercourse regardless of gender was observed.

In our study the clients' reasons for HIV testing were as following: unprotected sexual contact with men, unprotected sexual contact with women, unprotected sexual contact with both men and women, suspicion of man's infidelity, suspicion of woman's infidelity, sex work, drug use, others, not answered (39%, 23%, 5%, 6%, 4%, 5%, 1%, 13%, 4% respectively).

Sexual partners of clients were mostly Slovaks (59.9%), less foreigners (18.3%) and unknown (21.8%). Most of respondents (66.6%) reported the place of their latest risk behaviour as Slovakia, less 1.3% Czech Republic, 1.3% Austria, Spain 0.6% and 0.5% Thailand. Risk behaviour in Slovakia was reported by heterosexuals more frequently than by MSM and MSMW (21.6% vs. 13.6% vs. 9.6%, respectively), $p < 0.31$ with no significant difference between men and women and also unrelatedly to marital status of respondents.

About one third of respondents (29.3%) declared 1-5 sexual partners during their life, whereas 6-10, 11-20 and 21 and more partners were stated by 16.5%, 11.1% and 5.4% of clients, respectively. 28.5% did not know the number of their partners and 9.2% did not answer. Concerning the number of partners in the last 12 months 0, 1, 2 and more were stated by 3.1%, 28.0% and 45.8% of participants, respectively. Out of 605 adults aged 15-49 69.4% reported sexual intercourse with more than one partner in the past 12 months (GARP 1.3). MSMW stated significantly more sexual partners over 12 months comparing to MSM and MSW (84.6% vs. 72.8% vs. 60.5%, respectively), $p = 0.019$. There was no significant difference in the number of partners between persons tested anonymously vs. those tested under their name ($p > 0.05$).

Condom use during the last sexual intercourse (GAM 1.12) was declared by less than half of respondents (47.5%), 44.4% did not use condom, 1.7% did not remember whether they used condom and 6.4% did not answer the question. Additionally, significantly less women used condom than men (41.2% vs. 55.3%, respectively), $p = 0.003$ and significantly less MSMW used condom comparing to MSM and men who have sex with women (MSW) (38.5% vs. 60.1% vs. 46.3%, respectively), $p < 0.05$. Among 270 adults aged 15-49 who had more than one sexual partner in the past 12 months, 51.9% report a usage of condom during their

last intercourse (GARP 1.4). No relationship was found between the unprotected sexual behaviour and marital status of clients. There was no difference in condom usage between clients tested anonymously and those tested under their name.

DISCUSSION

Our study revealed quite low HIV prevalence among clients voluntarily tested for preventive reasons although their most frequent reason for testing was unprotected sexual intercourse. These data are in concordance with relatively low HIV prevalence in Slovakia in 2017 [6].

More than half of participants had a high level of education. Our findings correlate with data from 2nd generation surveillance provided among MSM in Bratislava during EU project SIALON provided in 4 EU cities [7]. According to the study from Spain MSM with a low educational status seem to be less likely to seek an HIV test [8]. Another study from Italy revealed that percentage of adults with self-reported risks of contracting HIV (who had been tested at least once in life) increased with the level of education, but, even so, about 40% of university educated subjects self-reporting risks of contracting HIV had never undergone an HIV test [9].

In our study clients voluntarily asking for HIV testing for preventive reasons revealed quite high risk behaviour and low awareness, in general. More than 60% of all participants did not know the HIV status of their partners and less than a half did not use condom during their last sexual intercourse. Just more than half of participants were tested for HIV in the past. Similarly, among adults visiting public outpatient clinics in Roma 58.1% of subjects self-reported to have been tested at least once for HIV [9]. We found that during this study and also in the past, clients have preferred to be tested anonymously. This could testify, among other things, the clients' trust to our facility. However anonymous testing still seems to be an up-to-date and effective means of prevention in the world, as it breaks down barriers and the fear of testing in people with higher risk behaviour [10].

According to ECDC, women accounted for one third of new diagnoses in the EU Region. Additionally, persistent problem with late diagnosis affects 54% of known cases among women [11]. In Slovakia about one-fifth of HIV-infected patients are women which corresponds with male-to-female ratio of the Centre of WHO European region [11]. We found that women with HIV seeking behaviour are in higher age than men, are more often divorced and proclaim less sexual partners than men and also less often use condom during their last sexual intercourse.

In 2018, 31% of all men and 25% of all persons newly diagnosed with HIV in Europe and Central Asia were MSM [12]. Data for MSM continue to show a high risk of acquiring also other STIs. Since the beginning of the HIV epidemic in 1985 MSM belong to a group with the highest risk of HIV in Slovakia. According to EMIS study [13] in Slovakia just 14-16% of MSM reported condomless anal intercourse with non-steady partners of unknown HIV status in the last 12 months.

In the history of HIV epidemic, only a few NGOs were involved in HIV prevention in MSM in Slovakia. However, also thanks their cooperation with NRC several 2nd generational surveillance studies succeeded to be conducted in this group also in Slovakia

[14-16]. In our study just about one third of MSM asked for HIV testing during last 12 months. We found that about 38% of clients asking for HIV testing for preventive reason were MSM/MSMW. Our data correspond with EMIS report [13] on basis of which Slovakia belongs to countries with 20%-40% HIV testing rate in MSM. Taking into account the assumption that MSM/MSMW could represent 4%-10% of the general population our data suggest that MSMs are more aware of the risk of HIV infection and therefore also more interested in HIV testing than heterosexuals.

A study conducted in 1996 among 119 visitors of two gay discotheques in the Slovak Republic revealed that more individuals were using condoms (70.6%), while only 28.6% were using them by each chance sexual intercourse [14]. We found that 60.1% of MSM used a condom during their last sexual intercourse. Additionally, the results of the SIALON I study show that 29.7% of MSM stated that they used a condom during the last anal sexual intercourse [17]. We can assume that gay clubs visitors' behaviour is more risky in relation to HIV infection than that of MSM who ask voluntarily for HIV testing in NRC.

According to the literature it seems that outness has an impact on both risk taking and health seeking behaviours. In general, MSM "out" were more likely to report HIV testing and being reached by HIV prevention programs compared to MSM who were "in" [18]. In our study just about one quarter of MSM (similarly MSMW and heterosexuals) were reached by HIV prevention programmes (GARP/GAM 1.11). However, according to SIALON II study [18] more than 600% of MSM are being out in Bratislava and according to EMIS study [13] 50% of MSM are being out to more than half of their family and friends in Slovakia. Therefore it seems that in The Slovak Republic the low reachability rate of HIV prevention programmes by MSM is not affected by their outness but rather by insufficient HIV prevention programmes alone.

In Slovakia, nevertheless most NGOs rather fought for MSM human rights and elimination of discrimination and stigmatization than against AIDS. For example, there is no legalized marriage between persons of the same sex in Slovakia. The only 1 married MSM taking part in our study was living in Bratislava and had last unprotected vaginal sexual intercourse in Switzerland. Additionally 2 married MSMW were also living in Bratislava, the 1st had last unprotected anal sexual intercourse with men in an unknown place, the 2nd had vaginal intercourse with women in Slovakia. Given not these answers it seems that our respondents likely perceived themselves according to their preferred sexual behaviour than feeling.

Both worldwide and in Europe within MSM the MSMW are identified as a high risk group. MSMW represent a sub-group with both behavioural and psycho-social vulnerabilities comparing to MSMO. Therefore, a better understanding of the behavioural patterns of MSMW may represent a key factor for reducing the potential transmission of HIV and other sexually transmitted infections (STIs) within the target population and also to women, who are less likely to acquire STIs compared to men who have sex with men only (MSMO) [19].

We found that 9.1% of clients asking for HIV testing identified themselves as MSMW. In SIALON II Bio-behavioural Survey provided among MSM in 13 European cities participants were categorised

as MSMW in 12.6% of all cases [20]. Being MSMW was more frequent among those “in the closet” compared to those were open about their sexual practice [18].

Factors that affect MSMW sexual health include unprotected sex, early sexual debut, forced sexual encounters, increased numbers of sexual partners, substance use, exchange sex, risk behaviours of their male and female partners, and pregnancy-related considerations. These factors uniquely shape MSMW’s vulnerability to HIV/STIs and other sexual health problems [21]. We found that more MSMW asked for anonymous HIV testing in the last 12 months than MSM and men having sex with women. Additionally, significantly more MSMW declared more sexual partners over 12 months comparing to MSM and MSW, but significantly less MSMW used condom during their last sexual intercourse comparing to MSM and MSW. It has been reported that MSMW who are in a relationship with a female partner are more likely to have unprotected sex with male and female partners and consequently, are also more likely to acquire STIs [21,22]. According to the results of our study MSMW suffered from other STI in the past less often than MSM and MSW, but 47% of clients did not answer this question. However, it is important to note that also anti-bisexual sentiment, socioeconomic marginalization, culturally specific masculine ideologies, and sexual identity can negatively influence MSMW sexual partnerships and likelihood of disease acquisition [21].

CONCLUSION

Results of the study highlight the need to strengthen HIV prevention programs in Slovakia and to increase HIV testing and awareness raising in order to meet UNAIDS challenge “90-90-90”. As a part of the strategy to combat HIV/AIDS within the National Program for the Prevention of HIV/AIDS in the Slovak Republic and the Action Plan for the Prevention of Infectious Diseases more attention should be paid especially to MSMW who represent a hidden population with high a risk behaviour for both MSM and women.

AUTHORS’ CONTRIBUTIONS

Danica Valkovičová Staneková lead and designed the study and wrote the first draft of the manuscript. Zuzana Jaščurová participated in survey implementation and data analysis. Soňa Wimmerová and Monika Hábeková analysed data and revised the manuscript. All authors contributed to writing of the following drafts. All authors read and approved the final manuscript. All authors fulfil the ICMJE authorship criteria and work at Slovak Medical University.

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ETHICAL APPROVAL AND INFORMED CONSENT

In accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments, study participants were informed about the purpose and voluntary nature of the anonymous study. The current study used anonymized and irreversibly de-identified secondary data.

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