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Targeted rapid HIV testing in public primary care services in Madrid. Are we reaching the vulnerable populations?

María D. Esteban-Vasallo [a,*], Mónica Morán-Arribas [a], Carmen García-Riolobos [a], M. Felicitas Domínguez-Berjón [a], Juan Rico-Bermejo [a], Sara Collado-González [a], Rodrigo Jiménez-García [b], Anne Guionnet [c], Belén Pizarro de la Fuente [c], Rajae El Kertat [c], Ada Coundoul [c], Ramón Aguirre Martín-Gil [a]

[a] Subdirectorate for Health Promotion and Prevention, Madrid Regional Health Authority, C/San Martín de Porres, 6, 28035, Madrid, Spain
[b] Preventive Medicine Unit, Rey Juan Carlos University, Madrid, Spain
[c] Unit of Tropical Medicine, Ramón y Cajal Hospital, Madrid, Spain

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SUMMARY

Objectives: To describe the population targeted for the rapid HIV testing program delivered via socio-culturally adapted services in primary care centers and to assess factors associated with uptake of first-time testing.
Methods: This was a descriptive cross-sectional study. We analyzed consultations between April 29, 2010 and May 31, 2012. We assessed the differences in age, origin, education, and sexual history between men who have sex with men (MSM), heterosexual men (HM), and women, using a two-sided independent *t*-test and Chi-square statistics. Factors associated with first-time testing were analyzed by logistic regression.
Results: Of 1940 consultations, 45.1% were HM, 25.4% MSM, and 29.5% women; 35.4% were immigrants, 2.5% were or had been sex workers, and 15.4% had visited one. The test was reactive in 2.1%. Up to 44.2% had never been tested. The probability of being tested for the first time increased in HM, women, populations from the Indian Subcontinent, those with no casual sexual partners, those whose partner's serostatus was unknown, and those with no history of other sexually transmitted infections.
Conclusions: This program managed to reach a high proportion of vulnerable people. First time HIV testing rates were high.

1. Introduction

HIV continues to be a major global public health issue, having claimed more than 25 million lives over the past three decades.[1,2] In Spain, the rate of new HIV diagnoses in 2010 was similar to that in other Western European countries, although above average for the whole European Union.[3] In our country, HIV is spread primarily through sexual contact (79.2% of new diagnoses), and infection among men who have sex with men (MSM) has been rising sharply (46.1%). Certain immigrant populations also account for these new diagnosis rates (38.4%).[3] Estimates indicate that in Spain one in three people infected with HIV is undiagnosed.[4] In 2010, a delayed diagnosis was observed in half of the new cases of HIV.[3,4]

Between 2007 and January 2012, 3703 new diagnoses of HIV infection were reported in the Madrid Autonomous Region.[5] They were mainly found in men (84.1%), and 68.1% were aged between 20 and 39 years. Almost half (48.4%) were born outside of Spain. Thus, the incidence rate of diagnosis in 2010 was 9.2 per 100 000 in the autochthonous population and 33.2 per 100 000 in the foreign-born population. Delayed diagnosis was higher among immigrants.[6] The main mode of transmission was unprotected sex. Among the autochthonous population, the main source of infection was through unprotected sex between men (73.4% of men with a new diagnosis), followed by unprotected sex between men and women (8.8% of men and 72.2% of women) and injecting drug users (IDUs). In immigrant women and in men from Sub-Saharan Africa, the main source of infection was unprotected sex, while in men from Latin America and Western Europe it was also through unprotected sex but mainly in MSM.[6]

* Corresponding author. Tel.: +34 91 370 0825; fax: +34 91 370 0815.
E-mail address: maria.estebanv@salud.madrid.org (M.D. Esteban-Vasallo).

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Although the risk for each individual depends on their behavior, certain populations are more at risk of HIV infection. MSM, immigrants, and sex workers and their clients require targeted preventive interventions.[4] Epidemics in MSM are re-emerging in many high-income countries.[7] Migrants are at high risk of HIV infection and its consequences, and they have a higher frequency of delayed HIV diagnosis and are more vulnerable to the negative effects of HIV status disclosure.[8] For migrants from countries where HIV prevalence is low, their socio-economic vulnerability puts them at risk of acquiring HIV in destination countries.[8]

Two key prevention policies aimed at reducing the incidence of new infections are: reducing the number of people living with HIV who do not know their serologic status and reducing the time between infection and diagnosis.[4] Immediate treatment with antiretroviral therapy reduces HIV transmission and the risk of AIDS-defining events. This could have a major effect on HIV/AIDS epidemics, reducing HIV incidence, prevalence, and mortality.[9–12] High-risk sexual behavior may be reduced after testing.[13,14] An important innovation is the ability to provide rapid diagnostic tests,[15,16] which significantly increases the receipt of results.[17,18] The overarching goals of the wide implementation of rapid HIV tests are to increase the number of individuals who are aware of their serostatus, to improve the uptake of prevention and care services for people living with HIV, and to prevent further transmission.[19] Rapid HIV testing is particularly applicable in specific clinical and non-clinical settings.[19] Furthermore it is acceptable to patients and test counselors and reduces the total time and number of visits.[15] Rapid tests are ideal for community settings in which clients may not have ongoing relationships with HIV test providers and may be unlikely to return for counseling.[20] They may also facilitate testing for many patients who do not perceive themselves as at risk or who do not otherwise access medical care.[21]

Since December 2009 the public health authorities in the Madrid Autonomous Region have been promoting the development of a program of prevention and early diagnosis of HIV, set in several primary care centers. These services provide counseling and rapid HIV tests. They are particularly aimed at vulnerable populations. More details regarding the program are provided elsewhere.[22]

The objectives of the present study were to describe the population targeted for the rapid HIV testing program delivered via socio-culturally adapted services located in selected primary care centers and to assess test results and factors associated with uptake of first-time testing.

2. Methods

This was a descriptive cross-sectional study. We analyzed data from consultations that took place between April 29, 2010 and May 31, 2012. These consultations were part of a program offering counseling and rapid HIV testing in seven public primary care centers in Madrid. These primary care centers were chosen for the program due to their location in areas of new HIV diagnoses and a higher immigrant population. The primary objectives of this program include: increasing knowledge of HIV serostatus among people who belong to groups disproportionately affected by HIV or those who are at a higher risk of contracting HIV, or those who may have more difficulties accessing health care. Although these centers are open to all people, they have been adapted to be more accessible to people who are part of more vulnerable groups such as economic migrants, sex workers, and MSM. These centers have cultural mediators who target immigrants and promote the effectiveness of counseling. These services were promoted through a variety of targeted and general approaches including: street level outreach work by cultural mediators, adverts in the mass media and on the Internet, distribution of information brochures, via the Red Cross telephone information service and by non-governmental organizations. Access to the service was completely free and anonymous. After a user requested an appointment, a date was given for an interview; counseling and HIV testing were provided when needed. Consultations could be carried out in 10 different languages. A questionnaire was designed to include the following variables: socio-demographic characteristics (sex, age, country of birth – grouped into large geographical areas, and level of education achieved), previous HIV test, rapid HIV test result, sexual history, and risk behavior. Risk behavior was assessed by looking at the following: steady partner, casual sexual partners, number of sexual partners in the last year, serology of sexual partner (if known), sex worker, visits to sex workers, length of time since they were last at risk of infection, history of sexually transmitted infections (STI), and sexual intercourse under the influence of drugs.

After a risk assessment was carried out by specially trained mediators, a rapid HIV test was performed by nurses from the center, and the result was communicated to the individual and recorded. HIV testing was performed with the Determine™ HIV 1/2 Ag/Ab Combo rapid test, a fourth-generation in vitro immunoassay of visual interpretation for the qualitative detection of HIV p24 antigen and antibodies to HIV 1 and HIV 2 in serum, plasma, or whole blood. The result is available within 20 min. Those with a reactive or indeterminate test were informed and referred for a confirmatory test and medical follow-up in the public health system.

2.1. Statistical analysis

A descriptive analysis of the population attending the service was performed and stratified into three groups: MSM, heterosexual men (HM), and women. We described and compared the distribution of the study variables in these three groups. In order to assess the differences between and within each group, we used the two-sided independent *t*-test for continuous variables and the Chi-square statistic for categorical variables.

Odds ratios (OR) and 95% confidence intervals (95% CI) are reported as measures of the effect size for the relationship between each independent variable and being tested for HIV for the first time, for those who underwent the rapid HIV testing. Factors that were significant in bivariate analysis ($p < 0.05$) were entered into a multivariable logistic model. The level of significance was set at 0.05. Analyses were performed with SPSS 18.0 software (SPSS Inc., Chicago, IL, USA).

Data confidentiality was maintained at all times, in accordance with Spanish legislation. It is not possible to identify patients at the individual level, either in this paper or in the database. Given the mandatory anonymous nature of the dataset, informed consent was not required.

3. Results

3.1. Assisted population characteristics

Over a 2-year period, from April 29, 2010 to May 31, 2012, 1940 consultations were registered (Table 1). Of these, 493 (25.4%) were by MSM, 874 (45.1%) were by HM, and 573 (29.5%) were by women. The mean age for all groups was 32.9 years and it was higher in HM (34.4 ± 10.8, $p < 0.001$). By country of birth, 35.4% of the consultations were with the immigrant population. Latin America was the most frequent region of origin for immigrants (18.3% of the total), followed by Western Europe (6.5%). The proportion of immigrants was significantly lower among MSM: 27.2% vs. 36.8% and 40.3% in HM and women, respectively. In general, education levels were high, especially among MSM (62.9% had some college education). Up to 44.2% of people attending the service had never