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TITLE: HIV testing uptake and risk behaviours in Spain

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ABSTRACT:

Background: To estimate the prevalence of HIV testing in the general population; to analyse factors related to voluntary testing; and to describe the main reasons for testing, the kinds of health services where testing takes place, and the relations between self-risk perception and HIV testing.

Methods: Probability sample survey of health and sexual behaviour in men and women aged 18-49 years and resident in Spain in 2003 (n=10980). A combination of computer-assisted face-to-face and self-interview was used, and bivariate and multivariate logistic regression analyses were performed.

Results: Some 39.4% (40.2% in men and 38.5%in women) had ever been tested, blood donation being the main reason for men and pregnancy for women. In the multivariate analysis HIV testing was associated with foreign nationality, high educational level, having injected drugs, and large number of sexual partners. In men, it was also associated with age 30-39 years, having had sex with other men, and having paid for sex. About 29.3% of men and 32.8% of women had their last voluntary HIV test in primary health care centres, while only 3.4% of men and 3.6 of women had last been tested in STI/HIV diagnostic centres. About 20.2% of men and 5.5% of women with risk behaviours had never been tested.

Conclusion: The proportion of men with risk behaviours who have never had an HIV test is unacceptably high in Spain. Scaling up access to HIV testing in this population group remains a challenge for health policies and research.

Key words: HIV testing; population-based survey; epidemiology; sexual behaviour; Spain

Introduction

Spain is the country in the European Union with the highest estimated number of HIV infected people, some of whom are unaware of their situation.[1,2] About 40.1% of those who were newly diagnosed between 2000 and 2005 had fewer than 200 CD4 lymphocytes when diagnosed, and 18.6% had between 200 and 350.[3] The existence of a large number of undiagnosed persons has a great impact on public health. On the one hand, it denies such persons the benefit of treatments and, on the other, it increases the probability of transmission to other persons, because they less often adopt protective measures with their partners, and they have higher viral loads.[4]

Since the beginning of the epidemic Spanish policy on HIV testing has been very similar to other western countries of the European Union. Testing has never been compulsory for any person (except blood donors), either Spanish or foreigner, or for persons belonging to any of the so called "risk groups". HIV testing can be performed confidentially and free of charge in both primary care and specialty care health centers. In the large cities HIV/STI centers offer testing free of charge and with total anonymity. For a number of years, only oral but not written consent has been required, and pre- and post-counseling is recommended. Antenatal screening is recommended to all pregnant women[5].

Late diagnosis is one of the main barriers to the UN General Assembly commitment to achieving universal access to HIV prevention and treatment by 2010.[6] New policies and practices that attempt to reduce the number of persons who are unaware of their HIV infection have become a priority for most national HIV prevention strategies, including those in Spain.[5] The success of these strategies may in large part influence the evolution of the epidemic in the short and medium term.[7]

Different studies have shown that, in Spain, a large percentage of injecting drug users and men who have sex with men have been tested.[8,9] However, there are no population-based estimates of the percentage of persons who have been tested, or of how HIV testing status may be related with sociodemographic factors and sexual risk behaviours. Nor do we know the population impact of antenatal screening and mandatory screening in blood donations. Furthermore, although a number of STI/HIV clinics offer free, and in many cases anonymous, testing, no data are available to determine whether risk groups in Spain use these services as widely as in other countries.[10]

Based on the first Spanish national probability survey on this topic – the Health and Sexual Behaviour Survey (HSBS) – this study provides estimates of the prevalence of HIV testing in the general population of Spain, analyses the sociodemographic and behavioural factors related to voluntary testing, and describes the mains reasons for

testing, the health setting where testing takes place, and the relations between self-risk perception and HIV testing.

Methods

The HSBS is a probabilistic survey of 10,980 persons aged 18-49 years resident in households in Spain who were interviewed between October and December 2003. Data collection was carried out using a combination of face-to-face and computer-assisted self-interview (CASI). **Based on research findings of the effect of the mode of questionnaire administration, the sociodemographics section was administered in a face-to-face interview (which also helped the participants learn to use the computer), while the rest of the questionnaire was CASI.[11,12]** This survey was included in the National Statistics Plan 2001-2004 (Health sector n. 3389) and granted ethical and legal approval. The response rate was 63.2%. Of the 36.8% of non-responses, 2.2% were due to inability to answer because of mental disability, poor knowledge of Spanish, or functional illiteracy; 5.3% to refusal of persons in the household to help locate the person selected for the interview, and 29.3% to refusal of the persons selected to answer the questionnaire. Non-response was higher among women, married people and those who had only primary level education. The study methodology, including sampling, weighting procedures and analysis of the response rate, has been described elsewhere.[13,14]

With regard to HIV testing, respondents were asked if they had ever donated blood after 1986 (assuming that all such persons had been tested for HIV), if they had ever been tested for HIV for any other reasons and, if they had, how long it had been since the last test, why they were tested on that occasion, and the type of health service where the testing took place.

All the analyses were performed separately for men and women. The data were weighted to adjust for the unequal selection probabilities. Differences in gender, age-group and region between the achieved sample and population estimates were corrected, and non response was taken into account with re-weighting. All the analyses were made using the complex survey commands (SVY) of Stata (version 8.2) which incorporated the weighting, clustering, and stratification of the data.

We estimated the percentage of persons ever tested for HIV and of those tested in the past 5 years, differentiating between testing done for blood donations and testing done for other reasons. We then described the type of health service where the last test took place.

“Voluntary HIV testing within the past 5 years” was defined as having been tested in that period for reasons other than blood donation, antenatal screening, insurance, mortgage or travel. The association of voluntary HIV testing with

sociodemographic factors and risk behaviours was estimated by calculating the Mantel-Haenzel odds ratio (OR) and 95% confidence intervals (CI). Multiple logistic regression analysis was performed to identify the independent effect of each variable. Adjusted ORs and CIs are presented. We then studied the association between voluntary HIV testing in the last 5 years and subjective risk perception by crude and age-adjusted analysis. Finally, we estimated the percentage of persons with risk behaviours who had never been tested.

Results

Population tested and reasons for testing: Of Spanish residents age 18-49 years, 39.4% had been tested for HIV on some occasion (40.2% of men and 38.5% of women). The 30-39 year age group had the largest proportion of persons who had been tested: almost half of this population group (table 1). In all three age groups, the proportion of those who had been tested for blood donation was significantly higher in men than in women.

Restricting the analysis to the last 5 years, the percentage of those who had been tested for HIV for reasons other than blood donation was significantly higher in women (18.0%, CI 16.9-19.2) than in men (14.5, CI 13.4-15.6). This difference was due to the difference in the 30-39 year age group: 29.1% in women versus 19.1% in men. The reason most frequently reported by women for the last test was antenatal screening: 31.5% in those aged 40-49 years and 66.8% in those aged 30-39. In men, however, from 57.1% of those aged 30-39 to 60.3% of those aged 40-49 indicated that the main reason for testing was different from any of those listed. Thus, whereas over 10.9% of men tested in the last 5 years in any age group had been tested for what could be called a voluntary and individual indication, this percentage was significantly lower in women in all three age groups.

Health service used in the last test: The pattern of use of the different types of health services employed for the last voluntary HIV test was very similar for both men and women (figure 1). The primary health care centre was by far the most frequent site (29.3% in men and 32.8% in women), followed by other, secondary-level health services. Some 14.3% of men and 11.1 % of women used a private laboratory. Centres specifically for STI/HIV diagnostic testing were chosen by only 3.4% of men and 3.6 of women, and all specific centres taken together (STI/HIV, family planning and drug treatment centres) were chosen by 9.2% of men and 8.7% of women.

Factors associated with HIV testing: The analysis of factors associated with voluntary testing in the past 5 years showed practically identical behaviour in both

men and women, in both the univariate and multivariate analyses (table 2). Some factors that were significantly associated in the univariate analysis disappeared in the multivariate analysis: the association with marital status, size of municipality and new partners. After adjusting for these variables, HIV testing was significantly associated with the following sociodemographic variables: foreign nationality (OR 1.7 in men and 2.2 in women) and high educational level (OR 1.7 in men and 1.8 in women, for those with university studies); in men voluntary testing was also associated with age 30-39 years (OR 1.3). With regard to risk behaviours, testing was associated with ever having injected drugs (OR 4.0 in men and 3.6 in women), larger number of sexual partners (OR 3.2 in men and 3.9 in women with 10 or more partners), and having had an STI in the last 5 years (OR 2.0 in men and 3.8 in women); in men it was also associated with having had sex with men (OR 1.9) and having paid to have sexual relations (OR 1.3).

Self-risk perception and HIV testing: After adjusting for age, the probability in men of having been tested voluntarily was higher with increasing risk perception: those who considered themselves as "greatly/quite a lot at risk" had an adjusted OR of 1.8 as compared to those who perceived themselves as "not at all at risk". In women, however, there was no clear trend, and only those who perceived themselves as "not very much at risk" had a higher probability of having been tested (OR 1.2) (table 3).

Populations with risk behaviour and not tested: About 20.3% of men and 5.5% of women reported that they had either injected drugs or had one of the sexual risk behaviours mentioned in table 4 and yet had never been tested for HIV. Even though the percentage of subjects with risk behaviours who had not been tested was higher in men for practically all the behaviours analysed, the enormous overall difference was due mainly to the extremely high percentage of men who had had five or more lifetime partners: 18.5% of men versus 3.8% of women.

Discussion

This is the first study that permits estimation of the percentage of residents in Spain who have received HIV testing in a representative sample of the population. The main finding was that four out of every 10 residents had been tested sometime in their lives, but the proportion of men who had never had an HIV test, especially those with low educational level and with risk behaviours, was unacceptably high.

To interpret this finding correctly, it is important to keep in mind the methodological limitations inherent to this type of survey, related both with social attitudes towards the behaviours under investigation and with the research technique.[15] Among the most important factors are possible participation bias, recall bias and underreporting of behaviour considered socially reprehensible. The response rate in the HSBS is comparable to that obtained in similar population studies, about 73% in the Australian Study of Health and Relationships (ASHR),[16] 66.8% in the U.K. National Survey of Sexual Attitudes and Lifestyles-I (NATSAL-I), 65.4% in NATSAL-II and 61% in France.[17] Non respondents may be different from those who choose to participate, however the direction of the bias is difficult to ascertain. In our case it is not easy to assess the impact on the main results of the fact that the response rate was lower in women and those who are married or with low educational level. Since the results were stratified by sex, the effect of the first variable is controlled in men, however we could have underestimated the proportion of men with risk behaviours who have never been tested. HIV testing was self-reported, and some limitations in the consistency of self-reports of HIV testing in the general population have been described.[18] **Use of the computer (CASI) in administering all the questionnaire except sociodemographics (where accurate answers are expected) may have helped obtain more complete and sincere self-reports of sexual behaviour, as some studies have shown [11,12], although the difference with non computer-assisted interviews has not always been significant.**[19] It is difficult to evaluate recall bias in sexual behaviour surveys. Finally, it should be pointed out that the response categories for the question on the main reason for the last test did not permit an adequate description of the reasons for testing, since a large percentage of persons chose the category "other reasons". However, this fact would limit only the validity of the description of the reasons for the voluntary test, without affecting the estimate of the effect of screening (blood donation and antenatal) programmes.

The percentage of persons who had ever been tested in Spain is higher than in the United Kingdom in the year 2000,[10] but quite a bit lower than in the USA in 2002,[20] where the proportion was close to 50%, despite the fact that testing for blood donations was not included in the estimate. The figure for Spain is much lower than that found in Switzerland or Canada, slightly higher than that reported for Norway or Italy, and higher than in Greece, [21-23] [24] or another study in Switzerland;[25] however, the results are not always comparable because the estimates for some of these later studies were made in 1995-98, with samples that were considerably smaller. There was a clear gender difference in the reason why persons 30-39 years of age had the highest proportion of those tested in the three age groups. In women the

large impact of antenatal screening was the most important factor, whereas in men various factors seem to be at play. In fact, something similar has also been found in other countries.[10] The effect of size of municipality disappeared after adjustment, which has not occurred in other countries; this may indicate more homogeneous access to HIV diagnostic testing throughout Spain. The association with having been born outside of Spain may be due to the fact that persons coming from areas with a high HIV prevalence are more likely to have been tested, as has been seen in the UK.[10] Although the countries of origin of immigrants in the two countries are very different, it is also true that a not inconsiderable proportion of immigrants (especially women) end up working as prostitutes, and these women have probably been tested in greater numbers.[26] Due to the sample size and small proportion of foreign nationals, it was not possible to stratify by geographic area of origin, thus this hypothesis cannot be confirmed. Given that we had already adjusted for risk behaviours, the association with educational level could be due to several different factors: a greater perception of risk, increased awareness of the advantages of being tested, or more knowledge of the available resources. A similar situation has been described in some countries,[23] but not in others.[10,21] This finding highlights the need to investigate the specific contribution of such factors in order to design truly effective strategies to promote testing in persons with lower educational levels.

The fact that HIV testing remained associated with various risk behaviours investigated in the adjusted analysis is a finding common to all such studies. It is a clear indication that programmes promoting testing are reaching their primary targets: population groups at greatest risk. In men, HIV testing increased with increasing perception of self-risk, which would confirm the validity of the association with risk behaviours. Since one of the likely biases in these types of studies is a tendency to hide risk behaviours, the real magnitude of the association is likely to be greater.

The fact that the most recent test was predominantly done outside the services most specifically directed to HIV testing (STI/HIV clinics, drug treatment centres, or family planning centres) requires special consideration. In the UK, the situation is exactly the opposite,[10] whereas in Canada, it is quite similar to Spain.[21] The Spanish respondents were not asked about the test result, given that this was considered a very sensitive issue. Consequently, we cannot determine the relative impact of the different types of services on the diagnosis of infections since the prevalence of infection in the population groups that use these services is obviously very different. Nonetheless, it is clear that primary health care plays an important role in Spain in providing access to HIV testing, whereas STI/HIV clinics play a small role. This difference is certainly due in part to the much larger number of STI/HIV clinics in the UK; however, it may also be due to less knowledge of the existence of these

services on the part of many population groups in Spain, or to the belief that these centres are designed for subgroups with whom they would not like to relate (sex workers, men who have sex with men, drug users, etc.). The existence of a not inconsiderable percentage of persons who go to private laboratories, where testing may be thought **to be quicker and farther away from the person's usual residence, suggests it may be advisable to have testing and home test kits available in pharmacies.**

The study findings show that, although we have come a long way in making HIV testing accessible in Spain – starting from levels that were probably lower than those in other countries, given that diagnostic testing was not explicitly promoted until the availability of antiretroviral treatment – there remains a considerable proportion of the population, especially men and those with low educational level, who have not been tested despite having risk behaviours. Scaling up access to HIV testing in these population groups is a key strategy to curb the epidemic. Research is also needed to identify the relative weight of real and perceived legal, patient and health system barriers, such as risk perception; knowledge of testing; fear of positive results; stigma; lack of trust between services and stakeholders; health providers' time, resources and skills; culture; and language, to improve early diagnosis and consequent access to treatment and prevention.[27] The new WHO/UNAIDS guidance on HIV testing and counselling [28] should be adapted to the special situation of Spain where, in our view, the social consideration of HIV infection and existing legal regulations mean that the risk of discrimination and other problems deriving from knowledge of serological status is very limited.

Table 1. Percentage of population tested for HIV and reason for last test, by sex and age group. Spain, 2003.

	MEN						WOMEN					
	18-29		30-39		40-49		18-29		30-39		40-49	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Ever tested												
Any reason	32,6	(30.3 - 34.8)	49,1	(46.5 - 51.8)	39,6	(36.7 - 42.5)	30,2	(28.0 - 32.3)	50,7	(48.1 - 53.3)	35,0	(32.5 - 37.5)
Blood donation	19,1	(17.2 - 21.0)	24,0	(21.6 - 26.3)	21,3	(18.9 - 23.7)	15,5	(13.8 - 17.3)	12,2	(10.5 - 13.9)	14,4	(12.6 - 16.2)
Tested in past 5 years (excluding blood donation)	11,9	(10.3 - 13.4)	19,1	(16.9 - 21.2)	12,5	(10.6 - 14.5)	13,0	(11.4 - 14.7)	29,1	(26.8 - 31.5)	11,6	(9.9 - 13.2)
Main reason for last test in past 5 years (excluding blood donation)#												
Antenatal screening							42,3	(35.7 - 48.9)	66,8	(62.1 - 71.4)	31,5	(23.9 - 38.3)
Insurance, mortgage, travel	6,1	(2.9 - 9.0)	13,6	(8.9 - 18.0)	11,1	(5.5 - 16.7)	2,3	(0.4 - 4.3)	0,8	(0 - 1.6)	5,8	(2.2 - 9.2)
Had sex with unknown partner and no condom use	12,9	(7.9 - 17.3)	10,0	(6.2 - 13.5)	5,0	(1.7 - 8.4)	4,7	(2.1 - 7.4)	2,0	(0.7 - 3.3)	1,0	(0 - 2.3)
Medical prescription	14,5	(9.5 - 18.8)	16,8	(12.0 - 21.3)	19,6	(13.3 - 26.0)	7,7	(3.9 - 11.4)	9,1	(6.5 - 11.7)	20,2	(14.0 - 25.9)
My partner asked me to be tested	5,9	(2.3 - 9.1)	2,4	(0.3 - 4.4)	3,9	(1.1 - 6.7)	3,9	(1.1 - 6.7)	0,6	(0 - 1.3)	0,7	(0 - 1.8)
Other	60,6	(52.5 - 66.0)	57,1	(50.1 - 62.8)	60,3	(52.2 - 68.5)	39,1	(32.4 - 45.8)	20,8	(16.9 - 24.8)	40,8	(33.0 - 47.6)
Voluntary* testing in past 5 years	10,9	(9.4 - 12.4)	16,3	(14.3 - 18.3)	11,1	(9.3 - 12.9)	7,2	(5.9 - 8.5)	9,4	(7.9 - 11.0)	7,2	(5.8 - 8.5)
<i>Base (unweighted, weighted)</i>	2071; 2053.1		1668; 1871.4		1414; 1574.1		2064; 1956.4		1881; 1805.9		1740; 1577.1	

Percentages of respondents who gave each reason

* "Voluntary" includes all reasons except blood donation, antenatal screening and insurance, mortgage or travel

Table 2. Factors associated with voluntary HIV testing within the past 5 years. Spain, 2003. Crude and logistic regression analysis.

	MEN						WOMEN					
	Base (weighted, unweighted)	HIV testing (%)	Crude OR	95% CI	Adjusted OR	95% CI	Base (weighted, unweighted)	HIV testing (%)	Crude OR	95% CI	Adjusted OR	95% CI
DEMOGRAPHICS												
Age group (years)												
18-29	2029, 2040	10,9	1		1		1935, 2044	7,2	1		1,0	
30-39	1844, 1649	16,3	1,6	1,3 - 2,0	1,3	1,0 - 1,7	1786, 1863	9,5	1,3	1,0 - 1,8	1,2	0,9 - 1,7
40-49	1555, 1395	11,1	1,0	0,8 - 1,3	0,9	0,7 - 1,3	1557, 1714	7,2	1,0	0,8 - 1,3	1,1	0,8 - 1,6
Country of birth												
Spain	5033, 4741	12,0	1		1		4837, 5191	7,1	1		1	
Other country	384, 340	23,7	2,3	1,7 - 3,1	1,7	1,2 - 2,4	439, 428	17,9	2,9	2,1 - 3,9	2,2	1,6 - 3,0
Size of municipality												
≤10,000 inhabitants	1238, 1077	10,5	1,0		1		1174, 1154	5,4	1		1	
10,000 – 500,000	3281, 3308	13,4	1,3	1,0 - 1,7	1,1	0,9 - 1,5	3128, 3582	7,9	1,5	1,1 - 2,0	1,2	0,8 - 1,7
>500,000	899, 699	13,8	1,4	1,0 - 1,9	0,9	0,6 - 1,3	976, 885	11,1	2,2	1,5 - 3,1	1,2	0,8 - 1,2
Marital status (last 12 months)												
Never married	2227, 2219	12,0	1,0		1		1734, 1873	7,5	1		1,0	
Married	2436, 2177	11,9	1,0	0,8 - 1,2	1,1	0,8 - 1,4	2726, 2908	6,4	0,8	0,6 - 1,1	0,9	0,6 - 1,2
Previously married	212, 200	17,8	1,6	1,0 - 2,5	1,2	0,7 - 2,0	329, 357	14	2,0	1,4 - 2,9	1,4	0,9 - 2,1
Cohabiting	515, 468	18,0	1,6	1,2 - 2,2	1,1	0,8 - 1,5	469, 466	14,7	2,1	1,5 - 3,0	1,3	0,9 - 2,0
Level of education												
< secondary	2079, 1932	10,9	1		1		2071, 2205	5,5	1		1	
Secondary	1812, 1751	13,2	1,3	1,0 - 1,5	1,3	1,0 - 1,6	1937, 2072	8,3	1,6	1,2 - 2,0	1,3	1,0 - 1,8
University	835, 780	16,3	1,6	1,3 - 2,0	1,7	1,3 - 2,2	1270, 1344	11,6	2,3	1,7 - 3,0	1,8	1,4 - 2,5
Religious belief												
Not religious	1681, 1533	15,0	1		1		1358, 1352	9,7	1		1	
Religious, non practicing	2617, 2483	10,9	0,7	0,6 - 0,9	0,8	0,6 - 1,0	2500, 2737	7,7	0,8	0,6 - 1,0	1,0	0,8 - 1,4
Religious, practicing	489, 490	14,8	1,0	0,7 - 1,4	1,2	0,8 - 1,7	833, 916	6,1	0,6	0,4 - 0,9	1,0	0,6 - 1,4
No response	520, 477	13,4	0,7	0,4 - 1,5	1,0	0,7 - 1,5	446, 469	8,3	0,8	0,5 - 1,3	1,1	0,7 - 1,8
RISK BEHAVIOURS												
Ever injected drugs												
No	5293, 4969	12,2	1		1		5241, 5580	7,8	1		1	
Yes	119, 108	39,4	5	3,0 - 7,4	4	2,3 - 6,6	35, 38	28,2	4,6	2,1 - 10,2	3,6	1,3 - 10,1
Number of partners (lifetime)												
0-1	1518, 1445	6,7	1		1		3044, 3290	4,7	1		1	
2-4	1806, 1712	10,2	1,6	1,2 - 2,1	1,3	1,0 - 1,8	1664, 1745	10	2,2	1,7 - 2,9	1,6	1,2 - 2,1
5-9	887, 804	13,4	2,2	1,6 - 3,0	1,7	1,2 - 2,4	306, 321	15,1	3,6	2,4 - 5,3	2,0	1,3 - 3,1
≥10	1073, 997	24,9	4,6	3,5 - 6,1	3,2	2,3 - 4,5	201, 191	28,7	8,1	5,6 - 12,0	3,9	2,4 - 6,1
No response	135, 126	15,6	2,6	1,4 - 4,8	2,0	1,0 - 3,7	54, 63	8,6	1,9	0,7 - 4,9	1,5	0,6 - 3,9
New partners (last 12 months)												
0	4497, 4185	12,0	1		1		4840, 5172	7,4	1		1	
1	345, 339	10,7	0,9	0,6 - 1,3	0,8	0,5 - 1,1	267, 281	14,2	2,1	1,4 - 3,1	1,3	0,9 - 2,1
≥2	416, 405	20,2	1,9	1,4 - 2,5	0,9	0,6 - 1,2	125, 122	16,1	2,4	1,4 - 4,2	0,9	0,5 - 1,8
No response	160, 155	19,7	1,8	1,1 - 2,9	1,1	0,7 - 1,9	46, 46	11,8	1,7	0,6 - 5,0	1,0	0,3 - 3,0
Reported STI (past 5 years)												
No	5034, 4716	12,8	1		1		4834, 5125	7,9	1		1	
Yes	94, 82	36,7	4,0	2,4 - 6,5	2,0	1,2 - 3,6	102, 100	31,3	5,3	3,3 - 8,5	3,8	2,3 - 6,1
Ever had sex with men*												
No	5223, 4906	12,1	1		1							
Yes	196, 178	31,2	3,3	2,3 - 4,7	1,9	1,3 - 2,9						
Paid for sex (past 5 years) *												
No	4699, 4412	11,6	1		1							
Yes	720, 672	20,5	2,0	1,6 - 2,5	1,3	1,0 - 1,8						

Adjusted for all the variables in the table and also for Autonomous Community (region)

* Women were not asked this question.

Table 3: Relationship between self-risk perception of HIV infection and voluntary HIV testing in the last 5 years. Spain, 2003. Crude and age-adjusted analysis.

	Base (weighted, unweighted)	HIV test in past 5 years (%)	95% CI	Age adjusted OR	95% CI
Men					
Not at all at risk	3205; 3398.2	11,7	10.5 - 13.0	1	
Not very much at risk	1368; 1463.9	14,6	12.5 - 16.8	1,3	1.1 - 1.7
Greatly/Quite a lot at risk	227; 246.8	19,1	13.4 - 24.7	1,8	1.2 - 2.7
Don't know	353; 389.6	11,2	7.5 - 14.9	1,0	0.7 - 1.4
Women					
Not at all at risk	3833; 3562.6	7,6	6.6 - 8.6	1	
Not very much at risk	1206; 1170.3	9,3	7.5 - 11.2	1,2	1.0 - 1.6
Greatly/Quite a lot at risk	191; 181.9	7,6	3.5 - 11.8	1,0	0.6 - 1.9
Don't know	455; 424.6	7,4	4.6 - 10.1	1,0	0.6 - 1.5

Table 4. Prevalence of persons with different risk behaviours who were never tested for HIV*

	Men		Women		Total	
	(%)	95% CI	(%)	95% CI	(%)	95% CI
Ever injected drugs	0,7	0.5 - 1.1	0,3	0.1 - 0.4	0,6	0.4 - 0.7
Sexual risk behaviour	19,9	18.8 - 21.1	5,3	4.7 - 6.0	12,7	12.0 - 13.4
Ever had sex with men	1,4	1.1 - 1.7	-	-	-	-
Five or more partners (lifetime)	18,5	17.3 - 19.6	3,8	3.2 - 4.3	11,2	10.5 - 11.8
Reported STI in the last 5 years	0,6	0.4 - 0.9	0,9	0.6 - 1.1	0,7	0.6 - 0.9
Paid for sex in the last 5 years and did not use condom last time	0,4	0.1 - 0.5	-	-	0,3	0.1 - 0.5
Ocasional partner in last 12 months and did not always use condoms	4,1	3.5 - 4.7	1,5	1.2 - 1.9	2,8	2.5 - 3.2
Injecting or sexual risk behaviour	20,3	19.1 - 21.5	5,5	4.9 - 6.2	13,0	12.3 - 13.7

* Never tested for HIV either on voluntary basis or for blood donation or antenatal screening

What is already known on this subject?

- Spain is the European country with the highest estimated number of HIV infected people
- there are no population-based estimates of the percentage of persons who have been tested, or of how HIV testing status may be related with sociodemographic factors and sexual risk behaviours.

What this paper adds:

- four out of every 10 residents in Spain had been tested sometime in their lives.
- the proportion of men with risk behaviours who have never had an HIV test is unacceptably high
- Scaling up access to HIV testing in men with risk behaviours risk remains a challenge for health policies and research.

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Figure 1 title: Health service used in the last voluntary HIV test (%). Spain, 2003

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Madrid, January 2008
Luis de la Fuente.

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