

SENTINEL SURVEILLANCE OF HIV INFECTION IN HIV TEST CLINICS, SPAIN 1992-2002

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HIV infection in Spain was monitored in persons undergoing voluntary HIV testing in ten sentinel clinics between 1992 and 2002. Only patients on their first visit were considered for inclusion, and their numbers rose from 4426 in 1992 to 6649 in 2002. Most of them recognised their risk exposure as heterosexual. The proportion of injecting drug users decreased from 19% to 2% of the study population, and the proportion of female sex workers increased from 6% to 26%. The number of patients diagnosed with HIV infection declined from 604 in 1992 to 153 in 2002, and HIV prevalence fell from 13.6% to 2.3% in the same period. In all risk exposure categories, a decrease in HIV prevalence was observed, more pronounced during the first few years and stabilised in the later years. In 2002, the highest HIV prevalence was found in injecting drug users (IDUs) (14.2%), homo/bisexual men (7.5%) and individuals who had an HIV infected heterosexual partner (10.2%).

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Introduction

In European countries, the epidemiological surveillance of HIV infection combines population based reporting systems and seroprevalence monitoring in specific population groups. The countries most affected by HIV infection have had difficulties in extending reporting systems within their respective territories. Epidemiological surveillance of HIV prevalence in specific groups provides useful information for the planning and evaluation of the preventive activities [1].

In Spain, HIV infection diagnosis is performed in a wide variety of healthcare centres, which has made it difficult to introduce an HIV reporting system to cover the general population. In the major cities there are HIV counselling and testing clinics that perform a large number of HIV tests and diagnoses. Because they are easy to access, these clinics have become the standard providers of this service for specific groups with HIV risk practices, which has consequently permitted very efficient monitoring of the evolution of the infection in these groups [2].

This paper presents HIV surveillance data based on voluntary tests performed in a network of sentinel clinics in Spain between 1992 and 2002.

Methods

The present study is based on a sentinel network of ten sexually transmitted diseases and HIV testing clinics in the following cities: Seville, Granada, Malaga, Gijón, Tenerife, Madrid (two centres), Murcia, Cartagena and Vitoria. All of them offer voluntary, anonymous and free HIV testing, and have been operating without major changes during the period of this study. Epidemiological information was collected by healthcare workers before the HIV test was performed, using a brief questionnaire. Patients were grouped in exposure categories according to self-reported risk situations, and in the following priority order: injecting drug users (IDUs), homo/bisexual men, female sex workers, heterosexual men, other heterosexual women, and other risk exposure groups. Blood specimens were tested for HIV by the ELISA method, and reactive sera were confirmed by western blotting or immunofluorescence.

Only patients on their first visit to a particular clinic between 1992 and 2002 were included in this study.

Results

Time trends in the number and characteristics of persons having an HIV test

The total number of patients undergoing their first HIV test in these clinics increased from 4426 in 1992 to 6649 in 2002. The proportion of women rose from 37% to 51% ($p < 0.001$) and the average age remained about 29 years. The mean age only increased in IDUs, rising from 26.8 to 32.3 years ($p < 0.001$).

Throughout the entire period of this study, the majority of patients underwent an HIV test following heterosexual risk exposure. Between 1992 and 2002, the annual number of IDUs who underwent HIV testing dropped by 85%, the number of female sex workers tested increased by a factor of six, the number of heterosexual men tested almost doubled, and the number of homo/bisexual men remained more or less constant [TABLE].

Patients diagnosed with HIV infection

In 2000, despite the increase in the number of patients who took the test, the percentage of individuals diagnosed with HIV had fallen by 75%, and since then has remained relatively stable. Seventy eight percent of patients diagnosed with HIV were men, and their average age was 29 years; these figures did not vary noticeably with year of test.

The annual number of HIV infection diagnoses decreased in all categories mentioned except for female sex workers and heterosexual men. The greatest decrease was found in IDUs, who represented 53% of the HIV diagnoses in 1992 but only 12% in 2002 ($p < 0.001$). The HIV infection diagnoses in homo/bisexual men decreased less spectacularly, and by 2002 they represented approximately one half of newly detected HIV infections.

Time trends in HIV prevalence

The HIV seroprevalence in the tested population decreased from 13.6% in 1992 to 2.3% in 2002 ($p < 0.001$); however, in the final few

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TABLE

Time trends of number of new voluntary testers, diagnoses and prevalence of HIV infection by exposure category. Spain, 1992-2002

Year	Injecting drug users			Homo/bisexual men			Female sex workers			Heterosexual men			Heterosexual women			TOTAL*		
	Testers No.	HIV+ No.	%	Testers No.	HIV+ No.	%	Testers No.	HIV+ No.	%	Testers No.	HIV+ No.	%	Testers No.	HIV+ No.	%	Testers No.	HIV+ No.	
1992	830	319	38.4	1039	204	19.6	281	7	2.5	1073	25	2.3	999	40	4.0	4426	604	13.6
1993	608	201	33.1	1150	179	15.6	353	5	1.4	1268	21	1.7	1304	41	3.1	4991	456	9.1
1994	538	156	29.0	1106	123	11.1	385	5	1.3	1444	23	1.6	1325	36	2.7	5080	360	7.1
1995	365	102	27.9	1096	142	13.0	397	4	1.0	1387	20	1.4	1278	29	2.3	4859	304	6.3
1996	326	92	28.2	979	98	10.0	608	8	1.3	1584	28	1.8	1330	25	1.9	5084	257	5.1
1997	255	61	23.9	959	99	10.3	638	2	0.3	1745	19	1.1	1444	32	2.2	5301	215	4.1
1998	184	46	25.0	970	86	8.9	710	9	1.3	1800	28	1.6	1508	20	1.3	5454	193	3.5
1999	153	47	30.7	946	99	10.5	1037	9	0.9	1919	27	1.4	1497	18	1.2	5737	204	3.6
2000	91	21	23.1	992	82	8.3	1428	10	0.7	1774	19	1.1	1523	16	1.1	5995	150	2.5
2001	92	19	20.7	1102	83	7.5	1733	13	0.8	1977	19	1.0	1581	16	1.0	6706	152	2.3
2002	127	18	14.2	1022	77	7.5	1708	11	0.6	2083	29	1.4	1548	15	1.0	6649	153	2.3

* Including patients with other or unknown exposure category.

years of the study period, the figure became stable.

In IDUs, HIV seroprevalence descended from 38.4% to 14.2% ($p < 0.001$) [FIGURE 1], but still remains the highest percentage of all

FIGURE 1

HIV prevalence among new female sex workers voluntarily tested by exposure categories. Spain, 1992-2002

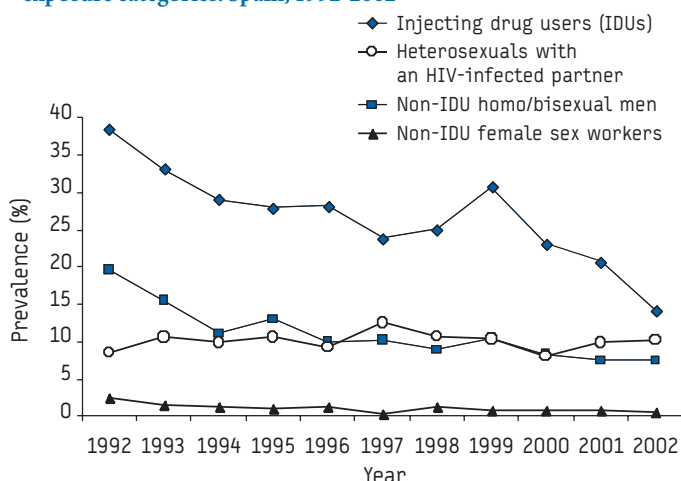
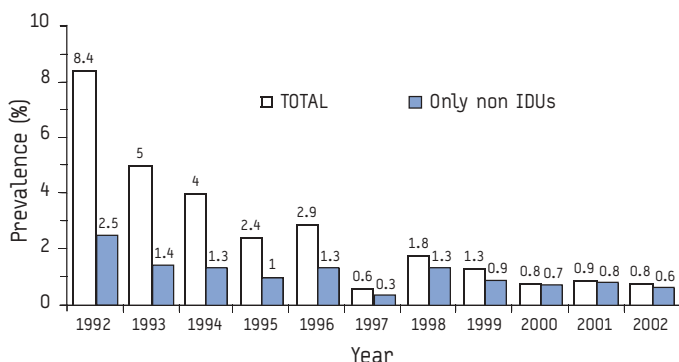


FIGURE 2

HIV seroprevalence among female sex workers who were new voluntarily tested. Spain 1992-2002



considered risk categories. In the homo/bisexual men category, prevalence descended from 19.6% to 7.5% ($p < 0.001$), this reduction was steeper during the first years. In female sex workers, HIV prevalence dropped from 8.4% in 1992 to 0.8% in 2002 ($p < 0.001$). This decrease is primarily due to the reduction in the number of IDU female sex workers; as a matter of fact, they previously accounted for 15.4% of total female sex

workers analysed in 1992, but they only represented 0.5% in 2002. However, a reduction in the HIV prevalence in non-IDU female sex workers was also observed from 2.5% to 0.6% ($p = 0.008$) [FIGURE 2].

The HIV prevalence in the heterosexual category was initially higher in women (4.0%) than in men (2.3%), however the heterosexual women category had a greater prevalence decrease during the study period, which resulted in a lower prevalence than in men by 2002 [TABLE]. The seroprevalence in sexual partners of HIV infected persons remained about 10%; it is the only exposure category, which did not show a clear trend of reduction [FIGURE 1].

Discussion

These results draw a favourable time trend in HIV infection between 1992 and 2002 in all of the exposure categories used for analysis. The reductions in prevalences were, in general, more significant at the beginning of the 1990s, and have tended to become stable in the past few years. These trends contrast with the rise in risk behaviours and HIV transmission that have been reported in some studies following the introduction of combination antiretroviral therapies [3,4].

One of the most important findings of this study is the decrease in the proportion of IDUs in new testers; this is due to changes in drug administration routes and to the decreased tendency for young people in Spain to become IDUs [5]. The progressively smaller number of IDUs, which is associated with the highest prevalences, contributes to reduce the overall prevalence of HIV infection in this population of clinic attendees.

We did not have information on the patients' nationality, although other studies centred on female sex workers in Spain have shown that there has been a change in their nationality composition, with a pronounced increase of patients who were not born in Spain, and a lower proportion of IDUs [6]. Nevertheless, the increase in the number of tested female sex workers may in part be due to improvements in the clinics' ability to attract members from this category.

Homo/bisexual men represent a large and stable component of these clinics' users. Their HIV prevalence decreased during the first years of the study, but subsequently stabilised at rates that can still be considered high, indicating the persistence of high risk behaviour in sexual relations between men [7].

These results, collected in nine cities, are a good reference for the situation and evolution of HIV infection in high risk populations in Spain. This information is of great practical value for the planning and evaluation of preventive actions for these groups. The epidemiological characteristics of HIV-diagnosed patients in these clinics probably do not coincide with the general epidemic pattern in Spain, on account of the over-representation of homosexual men and female sex workers. The HIV prevalences of voluntary testers may be biased; nevertheless,

due to the way in which this bias was maintained throughout the study period, the changes in prevalence that have been detected probably indicate true changes in HIV infection in the respective population groups. The characteristics and working methods of these clinics were constant throughout the study period, allowing valid comparisons to be made. Only patients who attended for the first time have been considered in this study. This prevents multiple inclusion of any individual and may improve sensitivity for the detection of recent changes in HIV transmission, as well as helping comparison across different years. The problem of interpreting prevalence in those undergoing repeated HIV tests are made more difficult due to progressive ageing, and the effects of preventive counselling. Of course for those undergoing a first HIV test, we cannot exclude the possibility that some patients had previously been diagnosed elsewhere.

HIV seroprevalence monitoring using voluntary testers complements other surveillance systems and provides interesting information for preventive programmes [1,2]. To interpret the results, however, it is important to monitor the changes in the number of testers.

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ORIGINAL ARTICLES

Surveillance report

INTERRUPTION OF MEASLES TRANSMISSION IN GIPUZKOA (BASQUE COUNTRY), SPAIN

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Measles vaccine was introduced in Gipuzkoa (Basque Country, Spain) in 1978 and was replaced by the measles, mumps, and rubella (MMR) vaccine for children aged 12-15 months in 1981. A second dose of the MMR vaccine was introduced in 1992. Both doses of the MMR vaccine were well accepted by the population and high coverage was achieved (95% and 91% for the first and second doses respectively for the period 1993-2002). Measles virus circulation was interrupted in the second half of the 1990s: no cases of indigenous measles were notified between 1998 and 2003, and only imported cases have been confirmed during this period. These data indicate that the measles vaccination programme implemented has been effective.

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Nevertheless, to avoid measles outbreaks following viral introduction, high MMR vaccine coverage levels for the two doses have to be maintained (>95%).

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Introduction

The World Health Organization (WHO) has made the interruption of indigenous measles transmission by 2010 a target for its European Region [1]. However, the epidemiology of this infection in European countries currently shows considerable differences, mainly due to different immunisation strategies and targets, their time of implementation, their degree of acceptance in the population, and therefore the levels of immunisation coverage achieved [2]. In Spain, measles vaccination (Schwartz strain) was included in the vaccination

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