

Missed opportunities for HIV testing of patients diagnosed with an indicator condition in primary care in Catalonia, Spain

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INTRODUCTION

In Catalonia in 2017, 578 new HIV diagnoses were reported. The rate of new cases of HIV infection was 8.1 per 100 000 population. Forty-four % of all new diagnoses were delayed (CD4 count < 350 cells/μL). Spanish guidelines for HIV testing recommends testing to all patients with a number of medical conditions (know as Indicator Conditions (ICs) suggested by the HIDES study).

Objectives:

- To describe the proportion of patients diagnosed with an IC for HIV in Primary Care (PC) in Catalonia
- To describe the proportion of these patients tested for HIV
- To estimate the HIV infection prevalence in these patients
- To describe the evolution of HIV testing with respect to the period 2010-2012 (prior to the publication of the guidelines on HIV testing based on IC).

METHODS

Cross-sectional and population based study in all patients between 16 and 65 seen in PC in Catalonia between 2013 and 2016 diagnosed with an IC and comparison with data from 2010 and 2012. Data were extracted from a large population-based public health database in Spain, the Information System for the Development of Research in Primary Care (SIDIAP). All participants between 16 and 65 years old registered in SIDIAP from January, 2013 and December 2016 with a diagnosis of an IC, were screened to identify those with an HIV test within 4 months. The included IC were: any AIDS-defining illness, Hepatitis B or C, sexually transmitted infections (STI), mononucleosis, lymphoma other than non-Hodgkin's lymphoma, herpes zoster infection, seborrhoeic dermatitis, unexplained leucocytopenia, unexplained thrombocytopenia and candidiasis other than pulmonary or vaginal candida.

RESULTS

Table 1. Demographic characteristics and distribution according to Indicator Condition (IC) among patients included in the study by gender. Primary Care, Catalonia, 2013-2016. N: 204790

Distribution of patients according to	Total		Men		Women		p-value
	Patients (n)	%	Patients (n)	%	Patients (n)	%	
Number of ICs diagnosed during the study period							<.0001
1 IC	173669	84,8	78935	84,03	94734	85,46	
2 IC	22931	11,2	10681	11,37	12250	11,05	
3 IC	5309	2,59	2700	2,87	2609	2,35	
>=4 IC	2881	1,41	1620	1,72	1261	1,14	
Number of episodes during the study period							<.0001
1 Episode	176038	85,96	80145	85,32	95893	86,5	
2 Episodes	21301	10,4	9891	10,53	11410	10,29	
>2 episodes	7451	3,64	3900	4,15	3551	3,2	
Age at the diagnosis of the first episode							<.0001
<30	51881	25,33	22763	24,23	29118	26,27	
<=50	63148	30,84	28948	30,82	34200	30,85	
30-49	89761	43,83	43225	44,95	47536	42,88	
Total	204790	100	93936	100	110854		

Table 2. Proportion of HIV testing by diagnosis of an Indicator Condition at the first episode. Primary Care, Catalonia, 2013-2016

	First Episode		Tested	
	n	%, (95% CI)	n	%, (95% CI)
Non-AIDS-defining illnesses				
Chlamydia Trachomatis	4387	1,05 (1,02-1,08)	2419	55,14 (53,65-56,62)
Gonorrhoea	1803	0,43 (0,41-0,45)	934	51,80 (49,47-54,13)
Granuloma Inguinal	17	0,00 (0,00-0,01)	1	5,88 (0,15-28,69)
Herpes virus 2	7232	1,73 (1,69-1,77)	2759	38,15 (37,03-39,28)
Human papillomavirus infection	29330	7,02 (6,94-7,10)	8975	30,60 (30,07-31,13)
Syphilis	5219	1,25 (1,22-1,28)	4029	77,20 (76,04-78,33)
Trichomoniasis	2421	0,58 (0,56-0,60)	913	37,71 (35,78-39,68)
Xanorcoide	76	0,02 (0,01-0,02)	37	48,68 (37,04-60,43)
Non specified STI	1990	0,48 (0,45-0,50)	985	49,50 (47,28-51,72)
Hepatitis B	12105	2,90 (2,85-2,95)	3877	32,03 (31,2-32,87)
Hepatitis C	13606	3,26 (3,20-3,31)	4509	33,14 (32,35-33,94)
Candidiasis no pulmonary	474	0,11 (0,10-0,12)	48	10,13 (7,56-13,2)
Herpes Zoster infection	38525	9,22 (9,13-9,32)	1119	2,90 (2,74-3,08)
Leukocytopenia	159	0,04 (0,03-0,04)	6	3,77 (1,4-8,03)
Lymphomas other than non-Hodgkins	138	0,03 (0,03-0,04)	16	11,59 (6,77-18,14)
Mononucleosis	15637	3,74 (3,69-3,80)	4163	26,62 (25,93-27,32)
Seborrhoeic Dermatitis	45963	11,00 (10,90-11,11)	1081	2,35 (2,22-2,49)
Thrombocytopenia	8125	1,94 (1,90-1,99)	399	4,91 (4,45-5,40)
AIDS-defining illnesses				
Cervical carcinoma	679	0,16 (0,15-0,17)	25	3,68 (2,40-5,39)
Kaposi's sarcoma	44	0,01 (0,01-0,01)	4	9,09 (2,53-21,67)
Lymphomas non-Hodgkins	585	0,14 (0,13-0,15)	69	11,79 (9,29-14,69)
Tuberculosis	1988	0,18 (0,17-0,19)	200	10,06 (8,77-11,47)
Recurrent pneumonia	784	0,19 (0,17-0,20)	25	3,19 (2,07-4,67)
Total	191287	49,75 (49,55-49,96)	36593	19,13 (17,76-18,09)

Figure 1. Percentage of HIV testing according to the Indicator Condition diagnosed in the first episode. Primary Care, Catalonia, comparative 2010-2012 vs 2013-2016.

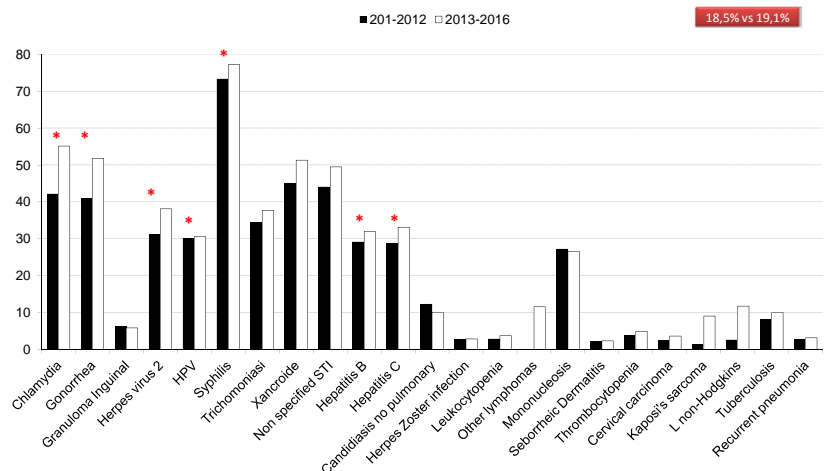


Table 3. Multivariate analysis of factors associated to not being tested for HIV at the first episode. Primary Care, Catalonia 2013-2016.

	OR	95% CI	p-value
Gender			
Women	1,53	1,50 - 1,57	
Men	1,00		
Age at the diagnosis of the first episode			<.0001
<30	1,00		
<=50	1,72	1,66 - 1,79	<.0001
30-49	0,93	0,91 - 0,96	<.0001
Only one disease	2,78	2,62 - 2,95	<.0001
Indicator condition diagnosed			<.0001
Sexually transmitted infections	1,00		
AIDS-defining illnesses	6,63	5,87 - 7,48	<.0001
Other non-AIDS-defining illnesses	5,44	5,31 - 5,58	<.0001

CONCLUSIONS

Of 4,176,203 patients between 16 and 65 years of age registered in the SIDIAP during the study period, 204,790 (4.9%) patients were diagnosed with at least one IC for HIV. Thirty six thousand five hundred ninety three (19.13%) were tested for HIV in the four months after the diagnosis of an IC. The HIV prevalence was 1.45%. The highest proportion of HIV testing was detected in patients in whom the first episode, where one or more IC were diagnosed at the same consultation, included: syphilis (77,20%), *Chlamydia trachomatis* (55,14%), gonorrhoea (51,80%), hepatitis B (32,03%), hepatitis C (33,14%) or mononucleosis 26,62%). No differences were observed respect testing performance in 2010-2012 period. The study showed important missed opportunities for HIV testing in PC in Catalonia. Urgent engagement of PC professionals to increase HIV testing and prevent late-stage diagnoses is required.