

Low Prevalence of Cervical Cancer Screening Among HIV-Positive Women in Catalonia (Spain)

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Abstract

There is evidence that HIV-positive women in Catalonia are at high risk for cervical cancer and have a high prevalence of oncogenic genotypes. Catalonia's screening protocol recommends that HIV-positive women undergo Pap smear at least annually, and more frequently depending on CD4 count. The objective of the present study is to describe the cervical cancer screening among HIV-positive women in Catalonia, with an emphasis on screening coverage. This study included 479 HIV-positive women from the PISCIS cohort. Participants completed a clinical-epidemiological survey that included sociodemographic, behavioral, clinical, and screening history variables. All patients also underwent a gynecological exam, including endocervical sampling for conventional or liquid cytology (Papanicolaou). 50.6% of the women reported annual PAP screenings; 11% had never had a Pap smear; and screening coverage for the last two-year was only 60.0%. The finding of low screening coverage is consistent with the high prevalence of cervical cancer in HIV-positive women in Catalonia. It is important to educate both medical professionals and HIV-positive women on the consequences of failure to screen for cervical cancer, diagnostic techniques to detect asymptomatic HPV, and methods of primary prevention.

Keywords: Screening; Cervical cancer; HIV

Introduction

Infection with Human Papillomavirus Virus (HPV) is a prerequisite factor for developing cervical cancer [1]. In women diagnosed with human immunodeficiency virus, HPV infection is more persistent and carries a higher risk of preneoplastic lesions (SIL) and cervical cancer as compared to the general population [2-4]. The Catalan Cervical Cancer Screening Protocol recommends that women diagnosed with the Human Immunodeficiency Virus (HIV) undergo two Pap smear tests at least 6 months apart, or one Pap smear with colposcopy, with follow-up screening annually; more frequently if CD4 levels are under 500 cell/mm³ or if there is history of an abnormal Pap smear. To date, however, there is no information on cervical cancer screening coverage for HIV-positive women in Catalonia.

In Catalonia, the prevalence of HPV infection in the general population is 10% [5]. Prevalence of infection with oncogenic HPV types is 33.2% among HIV-positive women, and as high as 75.0% in women less than 25 years old [6]. In Catalonia, there is evidence that HIV-positive women are at higher risk for cervical cancer and have a higher prevalence of oncogenic HPV types than the general population [7-9].

Failure to undergo recommended screening has been identified as the most significant contributing factor in the development of cervical cancer, both in HIV-positive women and in the general population [10,11]. The objective of this study is to describe the prevalence of cervical cancer screening in HIV-positive women in Catalonia, with an emphasis on screening coverage.

Materials and Methods

The original study was designed as a cohort of HIV-positive women from 9 hospitals included in PISCIS Cohort [12]. This manuscript presents a cross-sectional analysis of the cervical screening data

obtained during the first gynecological visit of the participating women.. The recruitment period was from September 2007 to March 2009.

The population in the present study was an opportunistic sample of women who visited the HIV unit of a participating hospital during the recruitment period, following the same inclusion criteria as for the PISCIS cohort. Participants were referred to the gynecology service at the same hospital from which they were recruited, for either one or two visits per year, according to the internal protocol of each hospital.

The hospitals responsible for recruiting the women in this study were: Hospital Clínico-IDIBAPS (Barcelona), Hospital Universitario de Bellvitge (Hospitalet de Llobregat), Hospital de Mataró (Mataró), Corporació Sanitària Parc Taulí (Sabadell), Hospital Universitario Germans Trias i Pujol (Badalona), Hospital General de L'Hospitalet (Hospitalet de Llobregat), Hospital de Palamós (Palamós), Hospital Comarcal del Alt Penedès (Vilafranca del Penedès), and Hospital de la Santa Creu i Sant Pau (Barcelona).

All methods were approved by the local ethics committees of each hospital, and the patients who participated signed informed consent documents. During the recruitment period, 479 were enrolled.

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At the first gynecology visit of the study protocol, each patient participated in a clinical-epidemiological survey that included sociodemographic, behavioral, clinical, and screening history variables, the screening coverage was defined as the time from the last PAP smear. All patients underwent a gynecological check-up, including endocervical sampling for conventional or liquid cytology (Papanicolaou) according to the internal protocol of the hospital. A second endocervical sample was taken to determine HPV DNA (second-generation Digene Hybrid Capture) and virus genotyping (Roche, Linear Array HPV test).

Qualitative characteristics were described using percentages. Data analysis was performed using SPSS version 17.0 software.

Results

Table 1 shows the sociodemographic characteristics of the HIV-positive women who participated in the study. Of the sample, 58% were older than 40 years, 27% were foreign-born, 53.8% had no stable partner, 43% had a primary level education, and 43% were not employed.

In terms of cervical cancer screenings, 50.6% of the women reported annual screening, 11% had never had a pap smear, and screening coverage for the last two years was only 60.0% (Table 2).

According to the cytology results performed during the first gynecology visit in the study, 13.8% (n=66) had low-grade lesions (LSIL), and 3.8% (n=18) had high-grade lesions (HSIL).

Discussion

The Catalonian Cervical Cancer Screening Protocol was developed in 2006 with the aim of improving prevention of cervical cancer, by applying scientific evidence and broadening coverage. This protocol recommends cervical cancer screening every 3 years for women in the general population, and annual screening for HIV-positive women.

The AFRODITA [13] study published in 2008, based on data obtained via a mail survey to estimate coverage and the factors associated with cervical cancer screening among 6000 Spanish women aged 18 to 65 years, reported that cervical cancer screening coverage over the past 3 years in Spain was adequate to high (75.6%). The same study reported that 14.0% of women in Spain had never had a Pap smear. In the present study, screening coverage over the past 2 years was 60.0%, and 11% of HIV-positive women participating in the study had never had a Pap smear previously.

When comparing these data, the proportion of HIV-positive women without previous cytology was similar and the screening coverage lower than that found in the general population of Spanish women.

Screening coverage is considered adequate to high if 70% of the population has been screened as recommended in the published protocol. In our study, the question time since last Pap smear in the clinical-epidemiological questionnaire did not include the category within the past year; however, data from the category within the past 2 years indicates that even fewer than 60% of the women had a Pap smear within the timeline recommended by the protocol. We can conclude, therefore, that screening coverage among this population is inadequate to low.

Studies on cervical cancer screening in Spain have concluded that the health professional plays an important role in educating patients and improving cervical cancer prevention. One population survey carried out in Spain [14] reported that main factor associated with having a Pap smear was the attitude of the woman. The study recommended that professionals bear in mind that they have a significant responsibility in

Characteristic ¹	n (%)
Age (years)	
<30	37 (7.7)
30-40	164 (34.3)
>40	278 (58.0)
Total	479 (100)
Place of birth	
Spain	348 (72.7)
Other country	131 (27.3)
Total	479 (100)
Marital status	
No stable partner	256 (53.8)
Stable partner	220 (46.2)
Total	476 (100)
Education level	
No schooling	32 (6.7)
Primary	206 (43.2)
Secondary	113 (23.7)
Vocational	71 (14.9)
University	55 (11.5)
Total	477 (100)
Employment	
Not working	206 (43.0)
Business owner	22 (4.6)
Self-employed	36 (7.5)
Salaried employed	215 (44.9)
Total	479 (100)

¹ % of the total sample with data for the variable

Table 1: Sociodemographic characteristics of the HIV-positive women who participated in the study

Characteristic	n (%)
Pap smear frequency (years)¹	
Annually	210 (50.6)
Every 2-3 years	105 (25.3)
Every 4-5 years	39 (9.4)
Every 6-10 years	34 (8.2)
<once every 10 years	27 (6.5)
Total	415 (100)
History of previous Pap smear²	
Yes	414 (89.0)
No	51 (11.0)
Total	465 (100)
Time since last Pap smear²	
Never	51 (11.0)
< 2	276 (60.0)
2-3	60 (13.0)
>3	75 (16.0)
Total	462 (100)
Result of last Pap smear³	
Negative	357 (74.5)
ASCUS	38 (7.9)
LSIL	66 (13.8)
HSIL	18 (3.8)
Total	479 (100)

¹Self-report, ²Medical records, ³Pap smear results from first gynecology visit in the study

Table 2: Cervical cancer screening history of HIV-positive women who participated in the study

cervical cancer prevention.

The low coverage rates found in this study also suggest that it is essential to educate health professionals and the HIV-positive women themselves about the consequences of failure to screen for cervical cancer. It is necessary to disseminate information about the utility of the Pap smear in preventing cervical cancer.

As found in the AFRODITA study, 73% of Spanish women have never discussed cervical cancer prevention with their health professional. Furthermore, despite the high incidence of HPV infection

in this population and its close relationship with cervical cancer, over 50% had never heard of the virus. According to the same study, knowledge about cervical cancer and HPV were positively correlated with having had a screening within the past 3 years.

The data shows that coordination among health professionals working in internal medicine and gynecology services of hospitals that care for HIV-positive patients could be improved, with the aim of establishing effective referral systems and optimizing clinical management of pathologies associated with HPV infection.

In conclusion, the low frequency and coverage of cervical screening found in this study is consistent with the high prevalence of infection with oncogenic HPV types, cervical lesions, and cervical cancer in HIV-positive women in Catalonia. As indicated by other studies, screening in HIV-positive women and general population should be complemented with diagnostic techniques that allow for detection of asymptomatic HPV infections and predict cervical intraepithelial neoplasia [15,16], as well as the HPV vaccine as a primary prevention measure when its safety and immunogenicity is demonstrated in HIV-positive women.

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