Localizador web
Artículo 66.101

Use of Pap Tests for Cervical Cancer Screening and Factors Related With Use in Spain

S. Luengo Matos and A. Muñoz Van den Eynde

Objective. To determine the percentage of women aged 40 to 70 years who had had at least one preventive Pap test (cytological examination) during the preceding 5 years, and the factors associated with use of the test.
Design. Population survey.
Setting. Home interviews during October 2000.
Participants. 2409 women aged 40 to 70 years residing in Spain. The nonresponse rate was 20.3%.
Main measures. The dependent variable was use of the Pap test, and independent factors examined were sociodemographic, social and health-related factors, information and attitude. Use of Pap tests was estimated with a 95% confidence interval (CI), and univariate and multivariate analysis were used to identify factors related with use of the test.
Results. Almost half (49.6%; 95% CI, 47.6%-51.6%) of the women had had a Pap test. The factors associated most strongly with use of the test were intention to have the test done (odds ratio [OR], 4.76; 95% CI, 3.40-6.65), not having the test done because of fear of the diagnosis (OR, 3.22; 95% CI, 1.77-5.85), earlier testing (OR, 2.59; 95% CI, 2.06-3.27), and doctor´s advice (OR, 2.44; 95% CI, 1.93-3.09). Other associated factors were considering the text necessary, upper or middle-upper socioeconomic status, access to private or combined private-public health care, age 40 to 50 years, and residing in a city with a population greater than 100 000.
Conclusions. Half of all Spanish women aged 40 to 70 years had had a Pap test. Use of the test was related most clearly with the woman´s attitude toward the test. Health care professionals should be aware of the importance of their role in encouraging Pap tests for screening.

Key words: Vaginal cytological examination. Papanicolau. Screening. Attitudes. Socioeconomic factors.

USO DE LA CITOLOGÍA DE CRIBADO DE CÉRVIX Y FACTORES RELACIONADOS CON EL USO DE LA PRUEBA EN ESPAÑA

Objetivo. Conocer el porcentaje de mujeres de 40 a 70 años en las que se ha realizado al menos una citología de Papanicolau preventiva en los últimos 5 años (uso de la citología) y los factores asociados con el uso de la prueba.
Diseño. Encuesta poblacional.
Emplazamiento. Entrevistas en el hogar. Octubre de 2000.
Participantes. Un total de 2.409 mujeres de 40 a 70 años residentes en España. La tasa de no respuesta fue del 20,3%.
Mediciones principales. La variable dependiente es el uso de la citología, y las independientes, factores sociodemográficos, sociosanitarios y de información y actitudes. Se estimaron el uso de la citología y el intervalo de confianza (IC) del 95%, y mediante análisis univariable y multivariable los factores relacionados con el uso de la prueba.
Resultados. El 49,6% (IC del 95%, 47,6-51,6) de las mujeres se ha realizado la citología. Los factores asociados en mayor medida con el uso de la prueba son la intención de la mujer de realizársela (*odds ratio* [OR] = 4,76; IC del 95%, 3,40-6,65), no dejar de hacérsela por miedo al diagnóstico (OR = 3,22; IC del 95%, 1,77-5,85), la existencia de una citología previa (OR = 2,59; IC del 95%, 2,06-3,27) y la recomendación por parte del médico (OR = 2,44; IC del 95%, 1,93-3,09). Otros factores asociados son: considerar la citología necesaria, estatus socioeconómico alto/medio alto, cobertura sanitaria privada o mixta, edad de 40 a 50 años y municipio mayor de 100.000 habitantes.
Conclusiones. La mitad de las mujeres españolas de 40 a 70 años se ha realizado la citología. El uso de la prueba se relaciona especialmente con la actitud de la mujer. Los profesionales deberían tomar conciencia de la importancia de su papel en la citología de cribado.

Palabras clave: Citología vaginal. Papanicolau. Cribado. Actitudes. Factores socioeconómicos.

Spanish version available at
www.atencionprimaria.com/97.763

A commentary follow this article (pág. 234)

Agencia de Evaluación de Tecnologías Sanitarias (AETS), Instituto de Salud Carlos III, Madrid, Spain.

Correspondence:
Setefilla Luengo Matos.
AETS. Instituto de Salud Carlos III.
C/ Sinesio Delgado, 4.
28029 Madrid. España.
E-mail: sluengo@isciii.es

Financial support: Intramural research project, Instituto de Salud Carlos III (Project number 00/218).

Manuscript received 2 June 2003.
Manuscript accepted for publication 1 September 2003.

Introduction

In developed countries the incidence and mortality rates from cervical cancer are very low, a fact attributed in large part to screening with the Papanicolau (Pap) test. If the quality of testing is appropriate, this test is considered the best method available for preventing the disease, although evidence of its efficacy has come from observational studies only.[1,2]

Periodic Pap tests are recommended for sexually active women, especially when risk factors such as human papilloma virus infection, sexual promiscuity or lower socioeconomic status are present.[3] The age group comprising women between 35 and 65 years old benefits most from the test, which is considered unnecessary past the age of 65 if the women has been tested previously with normal results.[4,5] The most widely recommended frequency is for repeat testing every 3 to 5 years after two consecutive normal results on annual tests. More frequent testing adds few benefits while notably increasing costs.[4]

The use of Pap testing has been related with sociodemographic, social and health factors, and with the woman's information about and attitude toward the test.[6-8]

In Spain, cervical cancer screening programs based on the Pap test have been developed mostly within primary care settings. Such programs are often opportunistic, and are used by women who actively seek health care.[5,7]

Population-based screening programs are not given high priority because of the low incidence and low mortality of the disease.[9] Opportunistic screening, however, is related with low coverage and more frequent testing of younger women without risk factors, whereas it is older women of lower socioeconomic status who benefit most from Pap testing.[1,10,11]

The aim of this study was to determine the percentage of women aged 40 to 70 years who had had at least one Pap test in the preceding 5 years (use of the Pap test), and the factors associated with Pap testing.

Material and Methods

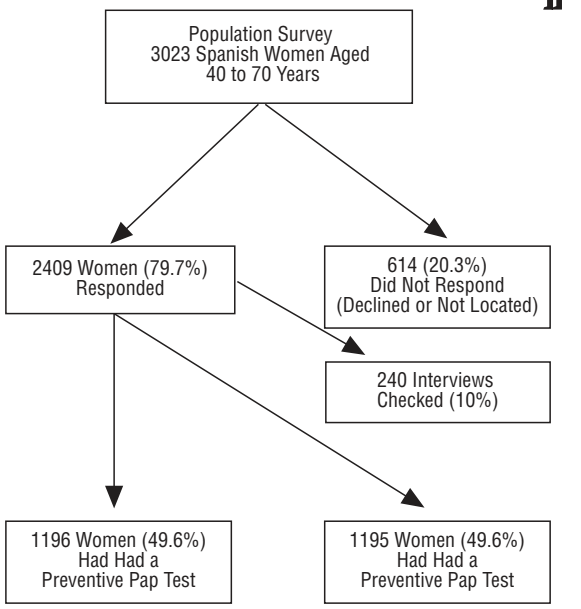
Study Population

A population survey was done in women aged 40 to 70 years residing in Spain (excluding Ceuta and Melilla). The numbers of participants to be sampled were calculated on the basis of staged conglomerate sampling. In the first stage census sections were stratified into 9 categories by autonomous community and population of the town or city of residence, classified as fewer than 2000 inhabitants, 2001-5000, 5001-10 000, 10 001-30 000, 30 001-50 000, 50 001-100 000, 100 001-200 000, 200 001-500 000 and more than 500 000 inhabitants. The second stage considered households, and the third stage considered women aged 40 to 70 years living in each household. Census sections were chosen by simple random sampling, and strata were sampled proportionately according to the number of women aged 40 to 70 years in each stratum. Households were chosen by the random walk method, and all interviews took place in the participant's home. Sample size was calculated by assuming that 50% of the women had had a previous Pap test, with a 95% confidence interval and a sampling error of ±2, based on the estimate of the number of women aged 40 to 70 years in the year 2000 provided by the National Statistics Institute *(Instituto Nacional de Estadística)*. The total sample consisted of 2409 interviews of 3023 women who were contacted, for a nonresponse rate (declined to participate or not located) of 20.3%.

Method

Information was collected during October 2000 with personal interviews and a standardized questionnaire. The questionnaire was pretested in 30 women from 3 different municipalities, and the final questionnaire incorporated modifications to improve the comprehension of some questions. Interviewing was done by a private firm specialized in survey studies, and all staff were trained appropriately in the use of the questionnaire. If the woman was not at home, 3 more visits were attempted at different times of day. The questionnaire included use of Pap testing as the dependent variable, and independent variables consisted of factors potentially related with use of the test. Performance of the Pap test was explained when the participant was unfamiliar with

Material and methods



General Scheme of the Study

Interview-based population servey of women aged 40 to 70 years who had had a Pap test in the last 5 years.

TABLE 1 **Distribution of Factors Associated With Having at Least One Preventive Pap Test During the Preceding 5 Years**

% Vertical	No. (%) Pap Test (n=1.196)	No. (%) No Pap Test (n=1.213)	χ^2	*P*	*Odds ratio*	95% CI
Sociodemographic variables						
Age, years			183.38	<.0001		
40-50	276 (23.1%)	135 (11.1%)			5.40	4.01–7.27
46-50	232 (19.4%)	137 (11.3%)			4.47	3.31–6.05
51-55	233 (19.5%)	193 (15.9%)			3.19	2.39–4.25
56-60	196 (16.4%)	210 (17.3%)			2.46	1.84–3.30
61-65	145 (12.1%)	237 (19.5%)			1.62	1.20–2.18
>65	114 (9.5%)	301 (24.8%)			1	
Marital status			29.18	<.0001		
Unmarried	41 (3.4%)	61 (5.0)			1.19	0.75–1.90
Married	1008 (84.3%)	930 (76.7)			1.92	1.49–2.
Divorced/separated	45 (3.8%)	41 (3.4%)			1.95	0.20–3.17
Widow	102 (8.5%)	181 (14.9%)			1	
Size of city			49.364	<.0001		
<2000	78 (6.5%)	105 (8.7%)			1	
2001-10 000	176 (14.7%)	225 (18.5%)			1.05	0.74–1.50
10 001-50 000	268 (22.4%)	354 (29.2%)			1.02	0.73–1.42
50 001-100 000	104 (8.7%)	120 (9.9%)			1.17	0.79–1.72
>100 000	570 (47.7%)	409 (33.7%)			1.88	1.36–2.58
Highest level of education			125.14	<.0001		
Did not complete primary education/primary	469 (39.2%)	750 (61.8%)			1	
Secondary	623 (52.1%)	410 (33.8%)			2.43	2.05–2.88
University	104 (8.7%)	53 (4.4%)			3.14	2.21–4.45
Employment status			39.9	<.0001		
Self-employed	77 (6.4%)	52 (4.3%)			1.72	1.20–2.48
Employed by other	255 (21.3%)	155 (12.8%)			1.92	1.54–2.39
Unemployed	864 (72.2%)	1006 (82.9%)			1	
Socioeconomic status			156.36	<.0001		
Upper	104 (8.7 %)	36 (3%)			8.79	5.53-13.96
Middle-upper	245 (20.5%)	138 (11.4%)			5.40	3.85-7.58
Middle	509 (42.6%)	453 (37.3%)			3.43	2.55-4.6
Middle-lower	266 (22.2%)	366 (30.2%)			2.21	1.62-3.01
Lower	72 (6%)	220 (18.1%)			1	
Number of children	2.48±1.46	2.68±1.70			Mann-Whitney U (P<.01)	
Number of pregnancies	2.81±1.69	3.03±1.95			Mann-Whitney U (P<.01)	
Social and health variables						
Health care			70.16	<.0001		
Public	1009 (84.4%)	1147 (94.6%)			1	
Combined (public and private)	167 (14.0%)	52 (4.3%)			3.65	2.64–5.04
Private	20 (1.7%)	14 (1.2%)			1.62	0.82–3.23
Doctors' advice			415.27	<.0001		
	886 (74.1%)	396 (32.6%)			5.90	4.94–7.03
Visits to general practitioner in the preceding 3 years		2.90	0.089			
1104 (92.3%)	1096 (90.4%)				1.281	0.96-1.70
Pap test(s) before 1995			374.55	<.0001		
	872 (72.9%)	407 (33.6%)			5.33	4.48–6.35
No history of gynecological disease			43.02	<.0001		
	1000 (83.6%)	880 (72.5%)			1.93	1.58–2.35
Relative or friend with cervical cancer			11.44	.001		
	230 (19.2%)	171 (14.1%)			1.45	1.17–1.80
Information and woman's attitude toward cervical cancer and Pap test						
Intention to have a Pap test in the future			584.74	<.0001		
	1110 (93.7%)	557 (48.4%)			15.76	12.14–20.45

(Continue in thenex page)

TABLE 1 **Distribution of Factors Associated With Having at Least One Preventive Pap Test During the Preceding 5 Years (*Continuation*)**

% Vertical	No. (%) Pap Test (n=1.196)	No. (%) No Pap Test (n=1.213)	χ^2	P	Odds ratio	95% CI
Considers Pap test necessary even though she does not feel ill			388.91	<.0001		
Necessary	1129 (94.3%)	738 (60.8%)			10.83	8.25–14.22
Not necessary	67 (5.7%)	475 (39.2%)			1	
Perception of the Pap test			7.101	.005		
Safe	1058 (94.3%)	915 (93.5%)			1.53	1.12–2.09
Has risks	64 (5.7%)	64 (6.5%)			1	
Cervical cancer cured if detected early			16.77	<.0001		
Good chance of cure	1065 (92.2%)	997 (87.0%)			1.77	1.34–2.33
Little or no chance of cure	90 (7.8%)	149 (13.0%)			1	
Likelihood of cervical cancer compared to other women the same age			0.029	.873		
Higher	84 (7.2%)	83 (7.0%)			1.031	0.75-1.41
Lower or the same	1090 (92.8%)	1107 (93.0%)			1	
Fear of the diagnosis not an obstacle to having the test			60.80	<.0001		
	174 (98.4%)	1104 (91.4%)			5.82	3.54–9.55
Inconvenience not an obstacle to having the test			70.06	<.0001		
	1166 (97.7%)	1078 (89.3%)			5.17	3.39–7.88

the procedure. The independent variables were: *a)* sociodemographic factors including socioeconomic status, recorded on the basis of level of education and employment status; *b)* social and health factors, and *c)* variables regarding information and attitudes. Reliability of the sampling procedure was checked in a random sample of 240 women by a private survey company different from the one responsible for interviewing the main sample. These participants were contacted by telephone and asked again whether they had had a Pap test, and their reasons for having the test. The correlations were significant at 0.65 and 0.54 (P<.01), respectively.

Statistical Analysis

We calculated the percentage of women who had had at least one Pap test in the 5 years preceding the interview, and the 95% confidence interval (CI). Univariate analysis of the association between each factor and the dependent variable was done with the chi-squared test for categorical variables and Mann-Whitney's U test for quantitative variables. The magnitude of association (*odds ratio* [OR] and CI) was calculated with reference to the category of the variable with the lowest percentage of women who had had a Pap test. Multivariate analysis with logistic regression was done to evaluate the weight of each factor separately. All analyses were done with SPSS v.10.0 software.

Results

About half (49.6%; 95% CI, 47.6%-51.6%) of the women had had at least one Pap test in the preceding 5 years. Univariate analysis (Table 1) showed the factors most strongly associated with use of the test to be intention to have a Pap test in the future (OR, 15.76; CI, 12.14-20.45), considering the test to be necessary even when the woman did not feel ill (OR, 10.83; CI, 8.25-14.22), upper (OR, 8.79; CI, 5.53-13.96) and middle-upper socioeconomic status (OR, 5.40; CI, 3.85-7.58), doctor´s advice (OR, 5.90; CI, 4.94-7.03), and fear of a diagnosis of cancer not being an obstacle to having the test (OR, 5.82; CI, 3.54-9.55). Use of the test was also associated with other factors such as marital status, size of the town or city of residence, highest level of education completed, employment status, number of children, number of pregnancies, type of health care, having a test more than 5 years ago, having a relative or friend with cervical cancer, perception of the test as safe, perception of cervical cancer as a disease that can be cured if detected early, and inconvenience not being an obstacle to having the test. No statistically significant associations were found between use of the test and visits to the general practitioner during the preceding 3 years, and perceived likelihood of cervical cancer compared to other women the same age. In the adjusted model (Table 2) the categories of factors were grouped by OR. Excluding the absence of a previous history of gynecological disease, the factors most strongly associated with greater use of the test were intention to have the test (OR, 4.76; CI, 3.40-6.65), fear of the diagnosis not being an obstacle to having the test (OR, 3.22; CI, 1.77-5.85), previous Pap tests (OR, 2.59; CI, 2.06-3.27), doctor's advice (OR, 2.44; CI, 1.93-3.09), and considering the test necessary even though the woman does not feel ill (OR, 2.42; CI, 1.67-3.50). Other factors associated with use of the test were upper or middle-upper socioeconomic status, private or combined medical care, age 40-50 years versus age 51-70 years, and residing in a city with a population of more than 100 000. The model

TABLE 2 **Factors Associated With Use of Preventive Pap Test in the Preceding 5 Years According to the Multivariate Logistic Regression Analysis**

Variable	*Odds ratio*	95% CI
Intention to have a Pap test in the future	4.76	3.40–6.65
No history of gynecological disease	4.54	3.51–5.87
Fear of the diagnosis not an obstacle to having the test	3.22	1.77–5.85
Test recommended by the doctor	2.44	1.93–3.09
Considers the test necessary even though she does not feel ill	2.42	1.67–3.50
Size of city		
>100 000 inhabitants	1.42-1.78	
100 000 inhabitants or less	1	
Age		
40 to 50 years	1.45	1.16-1.82
51 years or more	1	
Socioeconomic status		
Upper/middle-upper	2.15	1.42-3.26
Middle/middle-lower	1.64	1.16-2.33
Lower	1	
Private or combined health care	1.76	1.21–2.55
Pap test(s) before 1995	2.59	2.06–3.27
–2 log likelihood =2152.4; Nagelkerke R squared =0.490		
Predictive power		
Women with no preventive Pap test classified correctly =75.7%		
Women with preventive Pap test classified correctly =81.6%		
Total classified correctly =78.7%		

Discussion Key points

What is Known About the Subject

- Screening for cervical cancer with the Pap (Papanicolau) test is considered the best method available for decreasing the incidence of and mortality from this disease.
- In Spain, screening programs for cervical cancer have been created mainly within primary care services.
- Not all Spanish women who might benefit from screening with the Pap test have the test.

What This Study Contributes

- Half of all Spanish women aged 40 to 70 years had had a preventive screening test in the preceding 5 years.
- The factors that most clearly influenced use of the Pap test were those related with the women's attitude. However, the test was used less often by women older than 50 years, of lower socioeconomic status, or not residing in large cities.
- Primary care professionals should be aware of the important role they can play in screening for cervical cancer.

correctly predicted 78.7% of the cases in the whole sample, and 81.6% of the cases among women who had had previous Pap tests.

Discussion

Screening of women with the Pap test is a common and widespread practice in developed countries.[6,12] However, we found that half of the Spanish women aged 40 to 70 years surveyed in this study had not had a Pap test in the preceding 5 years.

Contact with health services determines, to a great extent, whether a woman has a Pap test.[13] In the present study, however, use of the test was not associated with visits to the general practitioner despite the existence of screening programs for cervical cancer in primary care. This lack of association may be related with frequent Pap testing in the gynecologist´s office.[14] We found that the doctor's advice was associated with use of the test; however, the test is not often recommended by health professionals.[15] In our study the most relevant factors influencing use of the test were related with women´s attitudes. It has been shown that lack of knowledge about cervical cancer and the Pap test, fear of gynecological examinations and fear of a diagnosis of cancer were substantial obstacles to having the test.[1,7] We believe it worthwhile to investigate in future studies the factors that influence women´s intention to have the test. Like other authors, we found that the Pap test is used more frequently by younger women (younger than 50 years in the present study), women of higher socioeconomic status, and women with access to private health care.[6,8] Women with private medical insurance often make greater use of preventive services, and visits to the gynecologist are more frequent in certain strata of educational level and socioeconomic status.[6] In the present study, univariate analysis showed a higher level of education to be associated with use of the Pap test, although the multivariate analysis failed to confirm the association—possibly because of some degree of association between age and level of education. As in earlier studies, we found that women who lived in larger cities had more Pap tests than women living in rural areas.[16]

The main limitations of this study are those inherent in any cross-sectional design and in any survey study in which the source of information is the participants themselves. However, the information provided by the women seems to be quite accurate.[8] We believe that primary care

professionals should be aware of the importance of their role in encouraging women to have screening tests for cervical cancer, and in providing access to testing for women who are most likely to benefit from testing but who receive such tests less frequently.

References

1. Noorani HZ, Arratoon C, Hall A. Assessment of techniques for cervical cancer screening. Ottawa: Canadian Coordinating Office for Health Technology Assessment, 1997. COHTA Report 1997:2E.
2. Sánchez-Seco P. Cáncer de cérvix uterino. Semergen 2002;28: 145-52.
3. Torrejón R. Factores de riesgo de cáncer uterino. Estrategias de prevención. Salud Total de la Mujer 2002;4:23-31.
4. Gálvez-Ibáñez M, González-Enríquez J, Lubián-López M. Cribado de cáncer de cérvix. A quién y cuándo. Aten Primaria 1998;21:234-9.
5. Plan Integral de Atención a la Mujer. Madrid: Instituto Nacional de la Salud. Ministerio de Sanidad y Consumo, 1998.
6. Borrás JM, Guillén M, Sánchez V, Juncà S, Vicente R. Educational level, voluntary private health insurance and opportunistic cancer screening among women in Catalonia (Spain). Eur J Cancer Prev 1999;8:427-34.
7. Risendal B, DeZapien J, Fowler B, Papenfuss M, Giuliano A. Pap smear screening among urban south-western American Indian women. Preventive Medicine 1999;29:510-8.
8. Mandelblat JS, Gold K, O'Malley AS, Taylor K, Cagney K, Hopkins J, et al. Breast and cervix cancer screening among multiethnic women: role of age, health and source of care. Preventive Medicine 1999;28:418-25.
9. Segura-Benedicto A, Spagnolo-de-la Torre E, Sanz-Menéndez S, Andrés-Martínez J. El caso del cáncer de cuello uterino y la frivolización de la prevención masiva. Aten Primaria 1994;13: 516-9.
10. Cerdá Mota T, Fernández Pampillón ME, Puime Montero P, Lorenzo García V. Enquisa de saúde sanitaria y social às mulleres. Galicia 2000. Santiago de Compostela: Xunta de Galicia. Conselleria de Sanidad e Servicios Sociais. Dirección Xeral de Saúde Pública, 2000.
11. Olazábal-Ulacia JC, Montero-Luengo J, Pastor-Mateos F, Alario-García MJ, García-Paniagua R, García-Gutiérrez JF. Diez años de citologías de cérvix uterino en un centro de salud. Aten Primaria 1997;20:293-8.
12. Snider JA, Beauvais JE. Pap smear utilization in Canada: estimates after adjusting the eligible population for hysterectomy status. Chronic Dis Can 1998;19:19-24.
13. Larsem LPS, Olesen F. Characteristics of subgroups of attenders and non-attenders in an organised screening programme for cervical cancer. J Med Screening 1996;3:133-9.
14. Luengo S, Muñoz A. El uso de la mamografía y de la citología de Papanicolau para la detección precoz de cáncer de mama y de cérvix en España. N.º 34. Madrid: Agencia de Evaluación de Tecnologías Sanitarias, Instituto de Salud Carlos III, 2003.
15. Scott-Conner C, Christie DW, McGehee R, Anglin BL, Heatherington R. Breast and cervical carcinoma screening services: physicians' perceptions of need. J MSMA 1996;809-15.
16. Anderson LM, May DS. Has the use of cervical, breast, and colorectal cancer screening increased in the United States? Am J Public Health 1995;85:840-2.

COMMENTARY

Preventing Cervical Cancer: What Is the Situation in Spain?

L. Sánchez Beiza

Médica especialista en Medicina de Familia y Comunitaria, Centro de Salud Ciudad Jardín, Madrid, Spain.

We know that the incidence of cervical cancer is decreasing in Europe. However, the evidence that this regression is due to screening of the female population with the Pap test is not easy to come by. Clinical trials in two similar populations of women, one tested and the other untested for several years in an attempt to find differences in morbidity and mortality from cervical cancer, would be indefensible in ethical terms. This means that we are forced to use the results of observational studies of the prevention of cervical cancer in populations in which other factors (changes in sexual habits, hygiene, barrier contraceptive methods, improvements in health conditions in the home, etc.) are difficult to control for.

Although cervical cancer is the second most frequent type of cancer in women worldwide, the great majority of women (80%) with this disease live in developing countries.

In Spain the incidence is the second lowest in the world: mortality due to cervical cancer accounts for only 0.3% of all deaths among Spanish women.

We know that human papilloma virus (HPV) infection, cervical cancer and precursor lesions are strongly associa-

Key Points

- Our knowledge of the natural history of cervical cancer is insufficient.
- The association between human papilloma virus and cervical cancer is strong, consistent and specific. However, viral infection in the absence of Pap test results is poorly predictive of the appearance of cervical cancer.
- Half of all women in Spain between the ages of 40 and 70 years have had at least one Pap test in the preceding five years.
- Studies are needed to evaluate the impact of well-established programs in Spain on mortality from cervical cancer in different autonomous communities.

ted with each other in a consistent, specific manner. Of the 30 types of cancer that can arise in the cervix, this association has been demonstrated for types 16 and 18, although other types of cancer may also be related. Among existing methods to detect infection are Southern blotting, the most sensitive technique although expensive and complex to use, and dot blotting. Until recently the latter required radioactive materials, although this problem might be solved with the liquid phase hybrid capture method. However, the routine use of these methods is far from advisable because of our inadequate knowledge of the natural history of the disease.

Demonstrated HPV infection is unspecific and poorly predictive of the subsequent development of cervical cancer. However, the predictive value of the Papanicolau test for atypia of squamous cells of unknown significance (ASCUS) and low-grade lesions would be greater if HPV infection could be tested in these women.

Other risk factors, although supported by less evidence, are HIV infection, early initiation of sexual relations and number of partners, low socioeconomic status, smoking, and a diet poor in carotenes and vitamins A and C.

This issue of ATENCIÓN PRIMARIA contains an interesting article titled "Use of Pap Tests for Cervical Cancer Screening and Factors Related With Use in Spain," by doctors Setefilla Luengo and Ana Muñoz. This population survey, carried out as part of an intramural research project financed by the Instituto de Salud Carlos III, finds that only 49% of all women between the ages of 40 and 70 years have had one or more Pap tests in the last 5 years. The factors associated with use of the test were intention to have a Pap test in the future, considering the test to be necessary even in the absence of symptoms, fear of the diagnosis not being an obstacle, having had a previous Pap test, and doctor's advice to have the test.

According to this study, having the test is related with upper or middle-upper socioeconomic status (groups in which the incidence is lower, a paradox possibly resulting from private medical care in this sector of the population), private or combined health care, age between 40 and 50 years, and residing in a city with a population larger than 100 000. Testing was also associated with factors such as marital status, size of the town or city of residence, highest level of education completed, employment status, number of children, number of pregnancies, type of health care coverage, having a Pap test in the preceding 5 years, knowing a relative or friend with cervical cancer, perceiving the test as safe, and perceiving cervical cancer as a curable disease.

After more than 20 years of constant reforms in the Spanish national health service, it is hard to accept that more than half (51%) of the women without symptoms had not had a Pap test in the last 5 years. Even worse, the population with fewest resources, who rely almost exclusively on public health care services, is the one that would benefit most from this preventive intervention. The authors found no statistically significant association between having a Pap test and visits to the general practitioner in the preceding 3 years or the perceived likelihood of cervical cancer in comparison to other women the same age.

This study appears to show that health professionals and the general population remain relatively unaware of this health problem. However, before a decision is made to devote additional efforts and resources to preventive measures, we should assess the factors that curtail the efficiency of such measures in our setting:

– The low frequency of this type of cancer limits the predictive value of the test.
– Our knowledge of the natural history of the disease is limited. We do not know what percentage of premalignant lesions will progress to give rise to cervical cancer and how many will regress without treatment.
– The high proportion of false negatives and false positives in the Pap test in studies done in developed countries with preventive programs going back several decades, such as the United Kingdom, the USA, and Canada.
– The different classification systems now in use at different pathology laboratories in public hospitals and private clinics.
– The low rate of uptake by women, especially those who comprise the population at risk.

Recommendations of the PAPPS

The 2003 update of the *Programa de Actividades Preventivas y de Promoción de la Salud* (PAPPS) worded with a commendable degree of caution, has reached the following conclusions on the basis of epidemiological characteristics and scientific evidence:

"– Appropriate consensus is advisable on protection during sexual contacts.
– The Papanicolau test is recommended. Initially, 2 annual tests should be done, followed by a test every 5 years in sexually active women aged 35 to 65 years. Women older than 65 years who have not had a test in the last 5 years should be advised to have 2 annual tests. If both tests are normal, no further interventions are advisable.
– Women with risk factors should be actively sought out."

These recommendations should lead to fewer interventions during a woman's lifetime than those recommended by the Canadian Task Force and the United States Preventive Services Task Force, both of which propose earlier and more frequent interventions.

In the light of current knowledge of epidemiological findings in Spain, should primary care professionals work to spread the use of the Pap test? I believe the recommendations of the PAPPS are reasonable, and reflect the as yet inconclusive evidence available regarding a number of aspects in the prevention of cervical cancer.

In view of the results of the study by Luengo and Muñoz, we should devote greater efforts to outreach for groups at greatest risk. Immigrant women, who receive care almost exclusively through public rather than private health services, form part of a collective at risk. Most of these women are from countries where the incidence of the disease is higher than in Spain, where marriage takes place at an earlier age, and where fertility rates are different from that of Spain. Moreover, these women often belong to disadvantaged socioeconomic groups.

What is the future likely to hold for cervical cancer prevention? Will we have an inoculable vaccine in the next few years for women at moderate to high risk? Will simple techniques become available to detect papilloma virus infection in women with low-grade malignancy lesions or patients at high risk? This group of patients would include immigrants arriving from countries where the prevalence of cervical cancer is high, carriers of HIV infection or persons with AIDS, and heterosexual women with multiple partners.

The data obtained from the research by Luengo y Muñoz are highly useful. However, many unanswered questions remain with regard to decisions as to whether to devote more resources to programs for the prevention of cervical cancer in the general population in Spain. Once the right information and appropriate resources are available, the priority given to the prevention of this cancer can be suitably modified with respect to other types of cancer that cause similar or higher rates of morbidity and mortality among the women we care for.

References

Cierco P, González J, Melús E, Bellas B, Nuin M, Marzo M. Prevención del Cáncer. Aten Primaria 2003;32:45-56.

Luengo S, Muñoz A. Uso de la citología de cribado de cérvix y factores relacionados con el uso de la prueba en España. Aten Primaria 2004;33:229-36.