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Barriers associated with lack of interest in the Papanicolaou test result.

Barreras asociadas con la falta de interés en el resultado del Papanicolaou

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Abstract

OBJECTIVE: To identify the personal, cultural and institutional barriers associated with patients' lack of interest in knowing (obtaining) the report of the Papanicolaou test.

MATERIALS AND METHODS: Observational, analytical, case-control study carried out in the Moyopampa Health Center, district of Lurigancho-Chosica, in Lima-Peru, during December 2022. The sample consisted of cases (patients who did not obtain the report of the last Pap smear test performed in the last two years) and controls (patients who came to obtain their report). The study parameters were cultural, institutional, and personal barriers recorded in a previously validated questionnaire. The association between variables was estimated with Pearson's chi-squared and Fisher's exact test, odds ratio with 95% confidence interval, and $p < 0.05$.

RESULTS: 138 cases and 138 controls were examined. Regarding personal barriers, age 25-35 years was significantly associated with disinterest in obtaining the results (OR = 0.021; 95%CI: 0.35-0.92; p = 0.021). Lack of education or having attended only primary school was associated with disinterest in collecting Pap smear reports (OR = 2.83; 95%CI: 1.30-6.15; p = 0.007); also not having heard of the Pap smear was associated with disinterest in collecting the report (OR = 2.83; 95%CI: 1.30-6.15; p = 0.007); not having heard of human papillomavirus (HPV) (OR = 2.56; 95%CI: 1.17-5.60; p = 0.016); and having difficulty because of work schedule (OR = 2.01; 95%CI: 1.23-3.27; p = 0.005).

CONCLUSIONS: Personal barriers, such as low educational level, lack of knowledge about human papillomavirus, and difficulties related to work schedule, increased the likelihood of not attending to receive the test report.

KEYWORDS: Pap smear test; Papillomavirus infections; Case-control studies; Peru; Educational status.

Resumen

OBJETIVO: Determinar las barreras personales, culturales e institucionales asociadas con la falta de interés de las pacientes en conocer (recoger) el reporte de la prueba de Papanicolaou.

MATERIALES Y MÉTODOS: Estudio observacional, analítico, de casos y controles efectuado en el Centro de Salud Moyopampa, distrito de Lurigancho-Chosica, en Lima, Perú, durante diciembre del 2022. La muestra fue de casos (pacientes que no recogieron el reporte de la última prueba de Papanicolaou practicada en los dos últimos años) y controles (pacientes que sí acudieron a recibir su reporte). *Parámetros de estudio:* barreras personales, culturales e institucionales registradas en un cuestionario previamente validado. La asociación entre variables se estimó con χ^2 de Pearson y prueba exacta de Fisher, razón de momios con intervalo de confianza del 95% y $p < 0.05$.

RESULTADOS: Se estudiaron 138 casos y 138 controles. En relación con las barreras personales, la edad de 25 a 35 años se asoció, significativamente, con el desinterés para recoger los reportes (RM = 0.021; IC95%: 0.35-0.92; p = 0.021). El carecer de estudios o solo haber cursado el nivel primario se asociaron con el desinterés para

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recoger los reportes de la prueba de Papanicolaou (RM = 2.83; IC95%: 1.30-6.15; p = 0.007); no haber oído hablar del virus del papiloma humano (VPH) (RM = 2.56; IC95%: 1.17-5.60; p = 0.016) y tener dificultad por el horario de trabajo (RM = 2.01; IC95%: 1.23-3.27; p = 0.005).

CONCLUSIONES: Las barreras personales, como un escaso grado de instrucción, la falta de conocimiento del virus del papiloma humano y las dificultades relacionadas con el horario de trabajo, aumentaron la probabilidad de no acudir a recibir el informe de la prueba.

PALABRAS CLAVE: Prueba de Papanicolaou; infecciones por papilomavirus; estudios caso-control; Perú; años de escolaridad.

BACKGROUND

Cervical cancer is still one of the most prevalent in the world. Latin America and the Caribbean hold third place with an incidence of 17 new cases and a mortality of 8.6 deaths per every 100,000 women-year. Regionally, Peru is the fifth country with higher incidence of this type of cancer. Among Peruvian women, cervical cancer is the second most frequent in incidence and mortality, with a rate of 15.2 and 7.8 per 100,000 women, respectively.[1]

Research about cervical cancer has focused on just one of the strategies for its control in Peru: the Pap smear test. However, prevention does not end with screening, but when the test results with diagnosis are handed, and timely treatment is initiated with positive cases.[2]

Internationally, Brazil is one of the countries that reports more studies related with delivering the Pap smear test results. This research has found that between 15 and 30% of the patients are not interested in the results or don't try to obtain them.[3-6] In Peru, 83.3% of the women know about the Pap smear test report, but the percentage is reduced to 73.4% in rural areas. The Pap smear test screening prevalence is reported as high as 50%, but only 14% of the patients try to obtain the report.[7,8]

There are personal, cultural, and institutional barriers that hinder the obtention of the test result.[5,6,9] Young age and a lack of knowledge about cervical cancer were identified as characteristics of women who did not try to obtain their results, in Brazilian studies. In Peru, Matassini et al.[10] determined three types of personal barriers: work activities, domestic activities, and a lack of knowledge of the disease. As institutional barriers they identified a lack of human and logistics resources, as well as a delay in handing out the report. As a cultural barrier, they identified being attended to by men. Ferris et al.[7] found that women with previous inconveniences to obtain their report were those who were willing to obtain a future report the least.

Likewise, the COVID-19 pandemic context generated fear and anxiety that caused women, to some degree, to stay away from health care centers to get health care services. A Chilean study shows this, where sexual and reproductive health, included secondary prevention of cervical cancer, were affected with a reduction of 58.2%.[11] A study made in Peru also reported a decrease in women obtaining their Pap smear test results.[12]

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All the aforementioned barriers interfere with patients going to obtain their Pap smear test results, which is one of the essential preventive practices for early detection and timely treatment of cervical cancer.[2] Thus, the present study had the objective of determining the personal, institutional, and cultural barriers associated with the lack of interest of patients in knowing (obtaining) their Pap smear test results.

MATERIALS AND METHODS

Observational**,** analytical, case-control study carried out at the Moyopampa Health Center, district of Lurigancho-Chosica, in Lima, Peru, during the month of December 2022. The sample was made up of cases (patients who did not obtain their report of the last Pap smear test taken in the past two years), and controls (patients who did obtain their report). *Inclusion criteria for both groups*: age 25 to 64 years, Peruvian nationality, last Pap smear test at Moyopampa Health Center, and accepting to participate in the study. The sample was non-probabilistic by convenience.

Study parameters: age, education status, health insurance, knowledge about cervical cancer, transfer time to health center (EESS), difficulty to access the EESS due to work or home commitments, and fear of cancer. *Cultural barriers*: fear of COVID-19 contagion and considering there are activities more relevant than their health. *Institutional barriers*: Whether the staff offered information about cervical cancer prevention, about the importance of obtaining the report, the time elapsed to be able to obtain the report, lack of appointments, closing of EESS due to the pandemic, or staff with medical leave due to COVID-19. The data was collected through a questionnaire validated by three experts, with Aiken's V of 1. Upon completing the surveys, the collected data was captured on Excel for quality control, and then processed and analyzed in SPSS version 26.

To assess the degree of association of the factors with the variable *obtaining the Pap smear test report*, Pearson's chi-squared test or Fisher's exact test were applied. Odds ratio with a confidence interval of 95% was obtained to assess the probability of the event of interest happening.

The study was approved by the Research Ethics Committee of the East Lima Health Integrated Networks Direction. The Helsinki declaration of bioethical principles was observed, and all the participants signed an informed consent statement.

RESULTS

One hundred thirty-eight cases, and 138 controls were included in the study. Regarding personal barriers, age 25 to 35 was associated, significantly, with a lack of interest in obtaining the reports (OR = 0.021; CI95%: 0.35-0.92; p = 0.021). A lack of education or having only finished primary school was also associated with a lack of interest to obtain the Pap smear test report (OR = 2.83; CI95%: 1.30-6.15; p = 0.007). Not having heard of the human papillomavirus (HPV) (OR = 2.56; CI95%: 1.17-5.60; p = 0.016) and having difficulties to obtain the report due to work commitments (OR = 2.01; CI95%: 1.23-3.27; p = 0.005). **Table 1**

Cultural barriers did not show any significant association with the lack of interest to obtain the Pap smear test reports. **Table 2**

Regarding institutional barriers, a lack of appointment times had a significant association with the lack of interest to obtain the Pap smear test results (OR = 0.35; CI95%: 0.16-0.77; p = 0.007). **Table 3**

DISCUSSION

Regarding personal barriers, age 25 to 35 years was a protecting factor for obtaining the Pap

Table 1. Personal barriers associated with a lack of interest in knowing the results of the Pap smear test

	Report obtention				p	OR	CI95%
	No		Yes				
	n	%	n	%			
Age at last Pap smear							
25 to 35	49	35.5	68	49.3	0.021+	0.57	0.35-0.92
36 to 64	89	64.5	70	50.7			
Education							
No education/Primary	25	18.1	10	7.2	0.007+	2.83	1.30-6.15
Secondary/Higher	113	81.9	128	92.8			
Have health insurance							
No	1	0.7	5	3.6	0.214*	0.19	0.02-1.68
Yes	137	99.3	133	96.4			
Have you ever heard about cervical cancer?							
No	5	3.6	3	2.2	0.723*	1.69	0.40-7.22
Yes	133	96.4	135	97.8			
Do you think cervical cancer can be prevented?							
No	5	3.6	4	2.9	1*	1.26	0.33-4.79
Yes	133	96.4	134	97.1			
Have you ever heard about HPV?							
No	23	16.7	10	7.2	0.016+	2.56	1.17-5.60
Yes	115	93.3	128	92.8			
Do you think that every woman who has HPV will have cervical cancer?							
Yes	69	50	69	50	1+	1	0.62-1.60
No	69	50	69	50			
Do you think it takes a lot of time to transfer from your home to the health care center?							
Yes	17	12.3	23	16.7	0.305+	1.42	0.72-2.80
No	121	87.7	115	83.3			
Does your work schedule make it difficult to go to the health care center to obtain your Pap smear report?							
Yes	68	49.3	45	32.6	0.005+	2.01	1.23-3.27
No/Doesn't work	70	50.7	93	67.4			
Does the time you put in house chores make it difficult to go to obtain your Pap smear report?							
Yes	44	31.9	35	68.1	0.231+	0.73	0.43-1.23
No	94	25.4	103	74.6			
Did you consider not going to obtain your report because of fear of having cancer?							
Yes	30	21.7	30	21.7	1+	1	0.56-1.77
No	108	78.3	108	78.3			

+Calculated with Pearson's chi-squared.
*Calculated with Fisher's exact test.

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Table 2. Cultural barriers associated with not obtaining the Pap smear report

	Report obtention				p	OR	CI95%
	No		Yes				
	n	%	n	%			
Fear of COVID-19 contagion							
Yes	11	8	16	11.6	0.311+	0.66	0.29-1.48
No	127	92	122	88.4			
Other activities are more important that one's health							
Yes	14	10.1	10	7.2	0.393+	1.44	0.62-3.37
No	124	89.9	128	92.8			

+ Calculated with Pearson's chi-squared test.

Table 3. Institutional barriers associated with not obtaining the Pap smear report

	Report obtention				p	OR	CI95%
	No		Yes				
	n	%	n	%			
The staff offered information about cervical cancer prevention							
No	52	37.7	43	31.2	0.254+	1.34	0.81-2.20
Yes	86	62.3	95	68.8			
The staff offered information about the importance of obtaining the report							
No	22	15.9	26	18.8	0.525+	0.82	0.44-1.52
Yes	116	84.1	112	81.2			
The staff offered information about when to pick up the report							
No	0	0	5	3.6	0.06*	2.04	1.80-2.30
Yes	138	100	133	96.4			
Waiting time for Pap smear report to be ready for pick-up							
Over 45 days	12	8.7	21	15.2	0.095+	0.53	0.25-1.13
Less or equal to 45 days	126	91.3	117	84.8			
There were no appointments							
Yes	10	7.2	25	18.1	0.007+	0.35	0.16-0.77
No	128	92.8	113	81.9			
Center closure because of COVID-19 pandemic							
Yes	9	6.5	9	6.5	1+	1	0.38-2.60
No	129	93.5	129	93.5			
Staff with medical leave due to COVID-19							
Yes	1	0.7	6	4.3	0.120*	0.16	0.02-1.35
No	137	99.3	132	95.7			

+Calculated with Pearson's chi-squared.
*Calculated with Fisher's exact test.

smear test results. This result is different from the study by Vasconcelos et al.,[6] where women under 35 years where those who, to a lesser degree, were interested in knowing the Pap smear test results. Pinho et al.[5] reported lower attendance to obtain the report in the teenager group, followed by patients between 20 and 59 years. Suk et al.[13] also reported a higher proportion of women between 21 and 29 years that did not have updated tests made, in comparison with their 30 to 65 years peers, because of lack of knowledge that they were necessary. These differences could be due to younger women attending health care services more frequently because of sexual and reproductive health matters, where they are approached to participate in cervical cancer preventive programs.

It is known that the lack of formal education is one of the most frequent barriers for the participation in screening programs with the Pap smear test.[14] It is worth noting that the preventive practice does not end with screening, but with the obtention of the report by the patient. This is why, in the present study, the educational level was considered a barrier, as a significant association was found between low education and a lack of obtention of the report.

The probability that a patient will go to obtain her Pap smear test report increases significantly when she has knowledge about cervical cancer, and has heard about its causing agent, the human papillomavirus (HPV). This finding coincides with the study by Vasconcelos et al.,[6] who also found an association between the knowledge about cervical cancer and the obtention of the report. These outcomes highlight the importance of knowing about HPV to foster preventive practices, especially regarding the obtention of the Pap smear test report.

Vasconcelos et al.[6] identified that personal factors, such as having a job, represented 91% of the reasons to not obtain the report. Matassini et al.[10] identified work and domestic commitments as personal barriers.

In the study published here, we found an association between work schedule and the circumstance of not obtaining the lab report, which shows a difficulty to develop this preventive practice among patients whose schedule coincides with the working hours of the health center. Opposite to the patients who had flexible working hours, with a freelance job, or were not working and had more free time. Along this line, Strelow et al.[15] implemented the "Saturday Pap smear test clinic" with unusual appointment times and service offered by women-only staff, strategy which managed to increase the detection rate of cervical cancer.

Cultural barriers, such as fear of COVID-19, or underestimating the risk of cervical cancer, were not associated with a lack of obtention of the reports. It was the same for Suk et al.[13], who suggest that the lack of perception of the need for the screening, and the absence of recommendations by health professionals are modifiable barriers to increase early detection of cervical cancer. It seems that these barriers were overcome with adequate information during the health care service, according to that study's results.

Regarding institutional barriers, it is essential to receive education and information about cervical cancer by qualified staff. This is supported by the study by Moreira et al.,[16] who found a higher obtention rate from patients after cervical cancer educational interventions, in comparison to those who were only informed about a time to return to obtain the results. These findings agree with what Shokar et al.,[17] and Fang et al.[18], achieved in their experimental studies, where they managed to significantly increase the acceptance of cervical cancer detection tests.

We didn't find in the study published here an association between the lack of information offered

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by health staff and the lack of obtention of the report. Most of the participants mentioned having received information about the prevention of cervical cancer, the importance of knowing their results, and when to go back to pick them up.

Olaza-Maguiña et al.,[19] observed that the delay in sending the reports constitutes a barrier for accepting the screening by Pap smear test, and Matassini et al.,[10] identified the delay in getting an appointment as a barrier to go and pick up the report. On the contrary, in our study, we observed that the patients who experienced this inconvenience had a greater probability of going to obtain their reports. This phenomenon could be attributed to the implementation of calls or text messages to deliver the results during the pandemic, which made going to pick up the results unnecessary. This finding agrees with what León-Maldonado et al.[20] reported, who found that providing an e-mail address as contact information, attending a health care center with Family Medicine, and getting care from experienced staff were associated with adherence to the obtention of the reports.

In the context of the COVID-19 pandemic, Duarte et al.[11] reported a decrease of 58.2% in Pap smear coverage, during the first semester of the year 2020, in comparison to the years 2015 to 2019. In our study, which focused on the obtention of the test report, most women did not report inconveniences, such as the closure of health centers, or medical staff on leave because of COVID-19. This suggests the continuity of the prevention of cervical cancer and the use of information and communication technologies to send the results of the pap smear test.

CONCLUSIONS

Personal barriers, such a low education, the lack of knowledge about the human papillomavirus, and difficulties related to work commitments, increased the probability of not going to obtain the Pap smear test report. On the contrary, an age between 25 and 35 years, reduced the risk of not going to obtain the report. The institutional barrier, represented by the lack of appointments, was not a deterrent to go and obtain the Pap smear test report. Cultural barriers did not have an effect of the obtention of the report.

REFERENCES

1. World Health Organization. International Agency for Research on Cancer. Cancer today. Data visualization tools for exploring the global cancer burden in 2020. http://gco.iarc.fr/today/home>
2. Organización Panamericana de la Salud. Control integral del cáncer cervicouterino: guía de prácticas esenciales. 2ª ed. Washington, DC: OPS, 2016. https://iris.paho.org/bitstream/handle/10665.2/28512/9789275318799_spa.pdf?sequence=1&isAllowed=y
3. Ferreira E, Pereira F, Márquez T, Maria C, da Silva A, Costa S. Cervical cancer: knowledge, attitude and practice on the prevention examination. Rev Bras Enferm 2019; 72 (3): 25-31. http://dx.doi.org/10.1590/0034-7167-2017-0645
4. Moreira C, Bezerra A, Oliveira A, Marques T, Fernandes D. Comparación de la eficacia de intervenciones en la tasa de retorno para recibir el laudo citológico vaginal: estudio experimental aleatorizado controlado. Rev Lat Am Enfermagem 2017; 25 (1): 1-8. https://doi.org/10.1590/1518-8345.1337.2857.
5. Pinho N, Moreira C, Oliveira A, Batista M, da Costa P, Bezerra A. Conocimiento, actitud y práctica sobre la prueba colpocitológica y su relación con la edad femenina. Rev Lat Am Enfermagem 2016; 24 (1): 1-7. https://doi.org/10.1590/1518-8345.0700.2699
6. Vasconcelos CTM, Cunha DFF, Coelho CF, Pinheiro AKB, Sawada NO. Factores relacionados al no presentarse a la consulta para recibir el resultado de la prueba de Papanicolaou. Rev Lat Am Enfermagem 2014; 22 (3): 401-407. https://doi.org/10.1590/0104-1169.3132.2430
7. Ferris DG, Chen J, Isaac A, Braithwaite E, Beideck E, Mikail N, et al. Reimbursement Incentives to Improve Adherence to Follow-Up of Cervical Cancer Cytology Screening Results in Peru. J Low Genit Tract Dis 2019; 23 (2): 116-123. doi: 10.1097/LGT.0000000000000459
8. Instituto Nacional de Estadística e informática. Perú Enfermedades No Transmisibles y Transmisibles, 2020. Programa de Prevención y Control del Cáncer. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1796
9. Urrutia MT, Poupin L. Women with Cervical Cancer: Perceptions about the Papanicolaou Test. Aquichan 2015; 15 (4): 499-507. doi: 10.5294/aqui.2015.15.4.5

10. Matassini Eyzaguirre SM, Luna V. Barreras para el diagnóstico y tratamiento del cáncer de cuello uterino en un hospital público de Lima, Perú: un estudio cualitativo. Acta Med Perú 2020;37(4):463-470. https://doi.org/10.35663/amp.2020.374.1835.
11. Duarte G. Efectos en el cuidado de la Salud Sexual Reproductiva en la comuna de Puente Alto-Chile, en contexto de pandemia por SARS-CoV-2: Estudio descriptivo. OSF Preprints 2020. doi: 10.31219/osf.io/gjbf2
12. Instituto Nacional de EstadísPCáncer. https://cdn.www.gob.pe/uploads/document/file/4570237/Per%C3%BA%3A%20Enfermedades%20No%20Transmisibles%20y%20Transmisibles%2C%202022.pdf?v=1684338910
13. Suk R, Hong YR, Rajan SS, Xie Z, Zhu Y, Spencer JC. Assessment of US Preventive Services Task Force Guideline-Concordant Cervical Cancer Screening Rates and Reasons for Underscreening by Age, Race and Ethnicity, Sexual Orientation, Rurality, and Insurance, 2005 to 2019. JAMA Netw Open 2022; 5 (1): e2143582. doi: 10.1001/jamanetworkopen.2021.43582
14. Bendezu G, Soriano A, Urrunaga D, Venegas G, Benites V. Asociación entre conocimientos acerca del cáncer de cuello uterino y realizarse una prueba de Papanicolaou en mujeres peruanas. Rev Peru Med Exp Salud Pública 2020; 37 (1): 17-24. https://doi.org/10.17843/rpmesp.2020.371.4730
15. Strelow B, Francis M, Gertner G, Olson R, Abuhadid K, Abdi D, et al. Saturday Pap Smear Clinic: addressing barriers to cervical cancer screening. BMJ Open Qual 2023;12 (3): e002252. doi: 10.1136/bmjoq-2023-002252
16. Moreira C, Bezerra A, Oliveira A, Marques T, Fernandes D. Comparación de la eficacia de intervenciones en la tasa de retorno para recibir el laudo citológico vaginal: estudio experimental aleatorizado controlado. Rev Lat Am Enfermagem 2017; 25 (1): 1-8. doi: 10.1590/1518-8345.1337.2857
17. Shokar NK, Calderon-Mora J, Molokwu J, Byrd T, Alomari A, Mallawaarachchi I, et al. Outcomes of a multicomponent culturally tailored cervical cancer screening intervention among underserved hispanic women (de casa en casa). Health Promot Pract 2021; 22 (1): 112-121. doi: 10.1177/1524839919893309
18. Fang CY, Ma GX, Handorf EA, Feng Z, Tan Y, Rhee J, Miller SM, et al. Addressing multilevel barriers to cervical cancer screening in Korean American women: A randomized trial of a community-based intervention. Cancer 2017; 123 (6): 1018-1026. doi: 10.1002/cncr.30391
19. Olaza-Maguiña AF, De la Cruz-Ramirez YM. Barriers to the non-acceptance of cervical cancer screenings (pap smear test) in women of childbearing age in a rural area of Peru. Ecancermedicalscience 2019;31(13):901. doi: 10.3332/ecancer.2019.901
20. León-Maldonado L, Hernández-Ramírez RU, Torres-Ibarra L, Spiegelman D, Sheth SS, Lazcano E, et al. Factors associated with receiving results and attending colposcopy in patients with positive HPV screens in Mexico City. Prev Med Rep 2023; 24 (35): 102347. doi: 10.1016/j.pmedr.2023.102347

https://doi.org/10.24245/gom.v92i3.9367