

Facilitators and barriers to the Papanicolaou test on women in countryside of Amazonas



Facilidades e barreiras para a realização do Papanicolaou em mulheres do interior do Amazonas

Facilidades y barreras para la realización de la prueba de Papanicolaou a mujeres en el interior del Amazonas

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ABSTRACT

Objective: To identify the facilitators and barriers of performing the Papanicolaou test on women living in countryside of Amazonas.

Method: This is an exploratory-descriptive study, with a qualitative approach, conducted with 37 women in two basic health units in the municipality of Coari, Amazonas, from March to April 2022. Data collection took place through individual semi-structured interviews and an audio-recorded focus group technique. The material obtained was submitted to Bardin's Content Analysis Technique, anchored in the theoretical framework of the health belief model.

Results: Facilitators for undergoing the preventive exam included: access to health services, availability of the test at river-based health units, invitation from a health professional and living in an urban area. The main barriers included: lack of forms, time, shortage of professionals, delay in delivering test results, restrictions imposed by husbands, lack of information about the test, financial difficulties, shame, fear, fatalism and geographical difficulties.

Conclusion: The main barriers affecting screening adherence rates were institutional, individual and psycho-emotional aspects. Structural actions related to health service management and educational actions aimed at prevention and health promotion may improve the effectiveness of screening programs.

Descriptors: Uterine Cervical Neoplasms; Papanicolaou Test; Nursing; Primary Health Care; Health Services Accessibility.

RESUMO

Objetivo: Identificar as facilidades e barreiras para a realização do Papanicolaou em mulheres do interior do Amazonas.

Método: Estudo exploratório-descritivo, de abordagem qualitativa, realizado com 37 mulheres em duas unidades básicas de saúde do município de Coari, Amazonas, no período de março a abril de 2022. A coleta de dados ocorreu por meio de entrevista semiestruturada individual e técnica de grupo focal audiogravada. O material obtido foi submetido à Técnica de Análise de Conteúdo de Bardin, ancorando-se ao referencial teórico do modelo de crenças em saúde.

Resultados: As facilidades para realizar o exame preventivo foram: acesso ao serviço de saúde, disponibilidade do exame nas unidades de saúde fluviais, convite do profissional de saúde e morar na área urbana. As principais barreiras foram: falta de fichas, tempo, escassez de profissionais, demora na entrega do exame, impedimentos do marido, ausência de informação sobre o exame, dificuldade financeira, vergonha, medo, fatalismo e dificuldades geográficas.

Conclusão: As principais barreiras que afetam as taxas de adesão ao exame foram aspectos institucionais, individuais e psicoemocionais. Ações estruturais, relacionadas à gestão do serviço de saúde e ações educativas voltadas à prevenção e promoção da saúde podem melhorar a eficácia dos programas de rastreamento.

Descritores: Neoplasias do Colo do Útero; Teste de Papanicolaou; Enfermagem; Atenção Primária à Saúde; Acessibilidade aos Serviços de Saúde.

RESUMEN

Objetivo: Identificar las facilidades y barreras para la realización de la prueba de Papanicolaou en mujeres del interior del Amazonas.

Método: Estudio exploratorio-descriptivo, con enfoque cualitativo, realizado con 37 mujeres en dos unidades básicas de salud del municipio de Coari, Amazonas, de marzo a abril de 2022. La recolección de datos se realizó mediante entrevistas individuales semiestructuradas y técnicas de grupo focal audio grabado. El material obtenido fue sometido a la Técnica de Análisis de Contenido de Bardin, anclada en el marco teórico del modelo de creencias en salud.

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Resultados: Las facilidades para la realización del examen preventivo fueron: acceso a los servicios de salud, disponibilidad del examen en unidades de salud fluviales, invitación del profesional de salud y vivir en zona urbana. Las principales barreras fueron: falta de formularios, tiempo, escasez de profesionales, demora en la entrega del examen, impedimentos del marido, falta de información sobre el examen, dificultades económicas, vergüenza, miedo, fatalismo y dificultades geográficas.

Conclusión: Las principales barreras que afectaron las tasas de adherencia a los exámenes fueron los aspectos institucionales, individuales y psicoemocionales. Las acciones estructurales relacionadas con la gestión de los servicios de salud y las acciones educativas dirigidas a la prevención y la promoción de la salud pueden mejorar la eficacia de los programas de detección.

Descriptores: Neoplasias del Cuello Uterino; Prueba de Papanicolaou; Enfermería; Atención Primaria de Salud; Accesibilidad a los Servicios de Salud.

■ INTRODUCTION

Globally, cervical cancer (CC) is the fourth most common cancer among women, with a higher burden in low- and middle-income countries⁽¹⁾. In Brazil, excluding non-melanoma skin cancers, CC is the third leading cause of cancer among women. The estimated number of cases in Brazil for the 2023-2025 triennium is 17,010 new cases. In the state of Amazonas, it remains the most prevalent⁽²⁾. Although the incidence and mortality from this type of cancer have declined over the years, significant regional disparities still persist across the country⁽³⁾.

Human papillomavirus (HPV) is the nearly obligate viral cause of CC. The targeted and precise approach to prevention of prophylactic HPV vaccination and CC screening based on HPV testing is now widely accepted as the new standard of care for disease prevention⁽¹⁾.

According to the new World Health Organization (WHO) strategy, all countries should achieve 90% HPV vaccination coverage, 70% screening coverage, and 90% access to treatment for pre-cancer and cervical cancer by 2030. It also predicts that more than 40% of new cervical cancer cases could be prevented by 2050⁽¹⁾.

In Brazil, guidelines for cervical cancer screening recommend annual Papanicolaou tests for women aged 25 to 64, followed by a three-year interval after two consecutive negative tests⁽⁴⁾. Current Brazilian regulations acknowledge younger age groups as the starting point for CC screening, but do not prioritize them for early screening⁽²⁾.

Although a notable decline in cervical cancer mortality has been observed among young women in several European countries⁽¹⁾, an increase in cases and deaths has been observed in women under 45 years of age⁽⁵⁾. This quick increase in CC cases among young women can be explained, in part, by changes in sexual behaviors (e.g., early sexual activity, multiple sexual partners) and an increased risk of HPV infection, which may lead to underreporting of the true incidence of HPV infections and early cellular changes⁽⁵⁾.

Several barriers can affect the decision to adhere to CC screening, such as lack of knowledge about the test and its benefits⁽⁶⁻⁸⁾, embarrassment and fear of the test^(9,10), difficulties

accessing healthcare services⁽¹⁰⁻¹²⁾, shortage of professionals^(11,12), and unpleasant experiences such as pain⁽¹¹⁾ and concern about the gender of the healthcare provider^(7,9,12). Cultural, sexual, and gender-related beliefs can interfere with screening adherence and should be further explored.

The Health Belief Model (HBM) explains the adoption of behaviors related to disease prevention based on people's beliefs and perceptions regarding health risks. This theoretical framework considers a series of sociobehavioral factors that can influence the decision to participate in any disease detection or prevention program⁽¹³⁾. The HBM is mediated by four constructs: perceived susceptibility, severity, benefits, and barriers⁽¹³⁾. By focusing on aspects such as risk perception, understanding of disease severity, the benefits of prevention, and potential barriers, the model allows for the development of more effective communication strategies and adoption of preventive behaviors, thus increasing screening adherence rates and reducing CC incidence and mortality.

Despite CC screening campaigns and awareness of screening barriers, women's screening adherence remains low in hard-to-reach regions, where diverse economic, cultural, regional, and even urban characteristics reveal the magnitude of the challenge facing this type of cancer in the country^(1,11). The incidence of CC is 15% lower in urban areas compared to rural areas⁽¹⁰⁾.

Studies point out that women living in remote rural areas face challenges related to cancer prevention, with lower coverage of both cervical cancer screening and HPV vaccination, and a population with less access to healthcare goods and services, as well as therapeutic, educational, preventive, and diagnostic practices^(7,10,11).

Research on CC screening in rural areas of the state of Amazonas is scarce⁽⁶⁾. Knowledge gaps regarding the factors that influence the participation of young women from remote areas of the Amazon region in screening programs can hinder CC prevention efforts. Identifying the facilitators and barriers to undergoing the test can contribute to the development of educational interventions and inform the formulation of public policies for CC control, especially in regions with high disease rates.

Therefore, the following research question was prepared: what facilitators and barriers influence women's behavior regarding undergoing Papanicolaou tests in small towns of Amazonas? The objective of this study was to identify the facilitators and barriers to undergoing a Papanicolaou test among women in small towns of Amazonas.

■ METHOD

This is a descriptive study, with a qualitative approach, conducted in two Primary Health Care Units (PHCU) in the municipality of Coari, Amazonas, from March to April 2022. The study report was prepared in compliance with the Consolidated criteria for REporting Qualitative studies⁽¹⁴⁾.

The municipality of Coari is located in the central region of the state of Amazonas, along the middle stretch of the Solimões River. It is 363 km from the capital, Manaus, and can be accessed by boat (river route) or aircraft (air route). The estimated population, according to the last census, was 70,616 inhabitants, with a population density of 1.3 inhabitants/km²⁽¹⁵⁾. The local healthcare services consists: a regional hospital of medium complexity with 108 beds; 14 PHCU; a tropical medicine institute; a riverine UBS (boat) to serve riverside communities; an emergency service; a health surveillance center; a polyclinic; among other services⁽¹⁶⁾. According to the Primary Health Care Information System, the proportion of women who underwent cervical cytology collection in Primary Health Care in the first four months of 2025 (January to April) was 61% in the municipality of Coari⁽¹⁷⁾.

The study population consisted of women residing in the city of Coari (urban and riverside areas). The convenience sample consisted of 37 women, with the sample size set after data saturation.

Women aged between 18 and 64 years old and registered with the Family Health Strategy of the municipality of Coari (PHCU Enedino Monteiro – Pera and PHCU Enedino Monteiro – Ribeirinha) were included. Women with a previous diagnosis of CC and a history of hysterectomy were excluded.

Recruitment took place from March to April 2022 in the waiting room of the Enedino Monteiro PHCU (Pera – urban population; and Ribeirinha – riverside population) while the women waited for healthcare appointments in the morning and afternoon. Participants were briefed by the lead researcher on the research objectives and benefits, focus group (FG) procedures, and voluntary participation in the study. They were then personally invited to participate, and those who agreed to participate signed an informed consent form and were included in the study.

No relationship was established between the researchers and the participants before the study began. During

recruitment, 52 women met the eligibility criteria; 15 declined to participate due to scheduling difficulties; and two were excluded because they had already undergone a hysterectomy.

Data collection took place at the PHCU in two phases: through a semi-structured interview and through a focus group technique (FG). First, participants completed an individual interview in a private, air-conditioned room, where the researchers applied a questionnaire containing socio-demographic and clinical data prepared by the authors and based on risk factors for CC⁽⁵⁾. Participants were then invited to attend the scheduled day, time, and location of the FG session. The second stage was the FG, conducted on a different day by a nurse, main researcher, and professor at the *Universidade Federal do Amazonas* with expertise in the topic. Observations and records during the FG were performed by two previously trained undergraduate nursing students from the same university.

The FGT followed a semi-structured method, using a previously outlined topic guide, consisting of scripts containing the meeting objectives and the triggering questions necessary to achieve them. The invitation to participate resulted in five FG (three groups with women from urban areas and two groups with riverside women), which took place at different and unique sessions, bringing together an average of seven to ten women in each group. Five FG sessions were held, each lasting an average of 60 minutes. No one other than the participants and researchers was present. The sessions were audio-recorded, with participants' authorization, and took place in a room at the PHCU.

To initiate the discussion, the following question was used: What difficulties and barriers do you face in undergoing the CC screening test?

The FGs were concluded when the information related to the research question, in which the themes, opinions, and insights were becoming redundant, temporarily reached theoretical saturation. That is, the groups were stopped when the internal logic of the study object and its connections and interconnections were identified⁽¹⁸⁾. For data processing, the recordings were first transcribed verbatim to prepare the analysis corpus, which was then linked to the field diary notes. There was no repetition or return of interviews to participants.

Data analysis was performed using the content analysis technique proposed by Bardin⁽¹⁹⁾, in three stages: pre-analysis; material exploration; processing of results; and interpretation.

In the first stage, pre-analysis, the recordings were transcribed, and the analysis corpus was imported and organized using Atlas TI software, version 9.0, for floating reading and preliminary notes based on the study's objectives and theoretical framework.

In the second stage, material exploration, using Atlas.ti software, data coding was performed by identifying recording units—ideas that were highlighted from text excerpts (quotations) and converted into codes. Afterward, by grouping related codes in Atlas.ti, meaning units were created, followed by categories. It is worth noting that the software facilitates data visualization by organizing them by color and allowing users to see how many times a code is repeated.

In the results processing and interpretation stage, automatic reports with meaning units and categories generated by Atlas.ti allowed the analysis and interpretation of the coded data in relation to the objectives and theoretical framework for analysis, with inferences and conclusions, as proposed by Bardin⁽¹⁹⁾.

To preserve anonymity and confidentiality, participants were identified with a code consisting of the letter I (interviewee), interview number, and sample group R (Ribeirinha) or P (Pera) (e.g., I2R, I3P).

The theoretical framework used for data analysis was the HBM, which has been widely used to explain health behaviors, including screening for early detection of CC⁽²⁰⁾. The HBM is based on four cognitive constructs: perceived susceptibility to the health condition; perceived severity of the disease; perceived benefits; and barriers to preventive behavior⁽¹³⁾.

This study complied with the Guidelines and Standards for Research Involving Human Subjects, established by Resolution No. 466/12 of the National Health Council. This study was approved by the Research Ethics Committee of the *Universidade Federal do Amazonas*, under Opinion No.5,031,505/2021.

■ RESULTS

The study participants were from the urban (n=22) and riverside (n=15) areas of the municipality of Coari, with a mean age of 35 years and a range of 18 to 63 years. Most reported early sexual initiation (mean=14.5; SD=2.0) and had an average of six sexual partners throughout life. The majority (70.3%) reported undergoing a preventive test once a year.

Content analysis regarding the facilities and barriers to performing the Papanicolaou test enabled the construction of two categories: Perceived facilitators for undergoing the Papanicolaou test; and Perceived barriers for undergoing the Papanicolaou test.

Perceived facilitators for undergoing the Papanicolaou test

This category consisted of 90 codes, divided into ten code groups and two subcategories: institutional facilitators and individual facilitators.

Institutional facilitators

Being able to receive care whenever seeking the health-care service was identified as an institutional facilitator for undergoing the test. Some women from the urban area reported that they were always attended to when they sought the healthcare service, with no need to schedule the exam, as they were already familiar with the healthcare team.

The provision of preventive screenings in riverside communities by fluvial PHCU was considered an important institutional facilitator for accessing healthcare services, although the frequency of visits by this service was not always consistent.

Receiving an invitation from a healthcare professional at home was also considered a facilitator and an incentive by the women from the PHCU Ribeirinha.

Individual facilitators

Positive feelings such as being able to relax during the test and not worry about the test results were expressed in the statements of participants from urban areas. Some participants reported that they had their tests annually because of the Bolsa Família program, a federal incentive that encourages the screening test. Women in urban areas reported that they had their Papanicolaou test for their well-being and health, not due to the Bolsa Família program, suggesting a perceived benefit of the test.

The facilitators perceived by women for undergoing the preventive test are presented in Chart 1.

Chart 1 – Perceived facilitators by women for undergoing the Pap smear test in the municipality of Coari, Amazonas, Brazil, 2022

Subcategory	Thematic Units	Excerpts from focus groups
Institutional facilitators	Accessibility to health services	[...] when we come on the same day, right, what they're doing, right, we can, right, do it without scheduling. (I21P) [...] every time I go to the health center, they "see" me. (I11R)
	Availability of the test through the Fluvial Basic Health Unit	[...] because I've already done it once out in the countryside where I live. Sometimes people come there from the riverboats, right, people from the army. They came and I did it, there were three army men and two nurses, and I did it, thank God. (I14R)
	Invitation from the healthcare professional	[...] every time he came to my house, he would say: 'Go schedule your Pap test, go schedule your test'. (I7R)
Individual facilitators	Positive feelings: relaxing during the test Not worrying about the test results	[...] me too, I try to relax so it goes quicker. (I14P) [...] I had it in 2020. My checkup came, and then there was a change, right? Then the nurse said I shouldn't worry, because it wasn't cancer, it wasn't serious, right? So, I didn't worry either. (I8P)
	Taking the test because of the <i>Bolsa Família</i> program	[...] and if we don't get it, they cut off the <i>Bolsa Família</i> program, right? So, you have to get vaccinated, you have to get the checkup. I just got my checkup yesterday, that's all. (I9P) [...] not now, I've already done it, right? I think it's going on for the eighth time I've done it, because I've been doing it because of <i>Bolsa Família</i> , right? And every time I have to ask. (I14R)
	Well-being and health	[...] it doesn't depend on <i>Bolsa Família</i> , because we may be gone and <i>Bolsa Família</i> stays, right? (I20P) [...] I say no, I'll do it, because it's for my health, right? (I8P)

Perceived Barriers to Papanicolaou test

This category consisted of 180 codes, divided into 13 groups and three subcategories: institutional barriers; individual barriers; and contextual barriers.

Institutional barriers

The delay in receiving the test results were emphatically reported as a barrier to undergoing the test. Women often go to health facilities seeking test results but often receive misinformation about the reason for the delay, highlighting failures in the health service.

Riverside women reported difficulties in scheduling appointments due to a lack of test forms. A situation attributed to their residence in rural areas. They mentioned that the days offered by the health facility for test collection are limited and insufficient, hindering access to the test.

The lack of healthcare professionals and health facilities in riverside communities represents institutional barriers to having the Papanicolaou test. The study participants also admitted that they did not know how the test was performed, nor did they understand its purpose, stating that they were never prepared to undergo it.

Individual barriers

The difficulty in managing time to complete the test was reported by participants as a barrier to undergoing the test, as was concern with domestic tasks and parental responsibilities, factors that contributed to women neglecting self-care.

Waking up early to obtain a service form was also mentioned by riverside women as a difficulty. Participants reported that they had to travel for hours to reach the municipality, to arrive at dawn and wait to collect their forms.

Another important barrier reported was not being able to afford to travel to the city of Coari for the test. The lack of health facilities for the test is concerning, as these women have to travel from their communities, generating additional financial costs.

Pain and discomfort related to the vaginal speculum were pointed out as barriers to undergoing the Papanicolaou test. Riverside women also cited obstacles and threats from

their husbands as barriers to the test, suggesting possible domestic violence.

Women reported feeling unsafe having the test performed by a male provider. They found it embarrassing to be seen by a man. This gender issue is a significant cultural barrier, as evidenced in participants' statements.

Negative feelings such as anxiety, fear of taking the test, as well as shame in front of the healthcare professional were also cited as barriers. Past risk behaviors were also mentioned, associated with fear of taking the test and detecting any change.

Contextual barriers

The main difficulty reported by women was leaving their riverside communities to receive care in the city of Coari and not being able to do it. A summary of the barriers perceived by women to perform the test is described in Chart 2.

Chart 2 – Perceived barriers by women to undergoing the Papanicolaou test in the municipality of Coari, Amazonas, Brazil, 2022

Subcategory	Main results	Excerpts from Focus Groups
Institutional barriers	Delay in receiving the test results	[...] and our biggest challenge here in Coari is that the results take a very, very long time to arrive. (I10R) [...] I usually wait because a whole year can go by. Sometimes I come here, and they say: 'Oh, don't worry, when there's nothing wrong, it always takes a while to come back'. (I16P)
	Lack of available slots	[...] I had difficulty because when I arrived there were no more slots, so I had to come back again and again until I managed to get one. (I8R) [...] as I said, every time I went for a preventive test, I'd arrive at five in the morning and there was no more slots. (I3R)
	Limited and insufficient access to health services	[...] it's just two days a week, right? (I21P) [...] especially during Bolsa Família period, then you really can't get one. (I4R)
	Shortage of healthcare professionals	[...] I've lived there for seven years and never gone there, so it's hard, right? (I12R)
	Lack of Basic Health Units in riverside communities	[...] now we're living in the countryside too, and there are no clinics there. (I5R)
	Lack of knowledge about the test	[...] the first time it was with a nurse, you know? I didn't even know how it was done. (I17P) [...] but it's because we're never prepared, since we don't know. Then after we gain experience, it's not such a big deal anymore. (I3R)

Chart 2 – Cont.

Subcategory	Main results	Excerpts from Focus Groups
Individual barriers	Difficulty managing time	[...] yes, yes, I went three years without doing it because I was working and my schedule didn't work with the appointment times. (I14P) [...] but time is something we make ourselves because if we don't take the time to do it, we never get anything done, we're always stuck. (I9R)
	Waking up early to get a slot	[...] first, it was 4 a.m. when we got back from the countryside, right? I'd stay here on the edge, four hours, so it's really close, right? You know what? I'm not going anymore. If we're supposed to get it, we'll get it; if not, come another day. At that time, it's the best time to sleep, right? (I3R) [...] my difficulty is waking up at dawn to get a slot. (I5R)
	Financial constraints	[...] I really wanted to do it, but I can't afford to come to the town. (I13R)
	Pain and discomfort	[...] I felt pain. (I5R) [...] so how are we supposed to relax with a device like that inside us? There's no way to relax. I feel like that. (I2P)
	Husband's objections and threats	[...] sometimes he would threaten me if I went to do it with a man, right? 'Ah, when you get back, I'll beat you.' He'd say all sorts of things. (I3R) [...] I did feel a barrier because my husband prevented me from coming, but I put myself to God, faced the barriers, and said I'm the one who needs my health, not you. (I5R)
	Male healthcare professionals	[...] I wouldn't feel comfortable doing it with a man; I'd feel safer if it were a woman rather than a man doing it. (I22P) [...] I felt embarrassed to do it with a man because, like, we only have our husband, right? We don't have lots of men like some people who have several boyfriends. (I2P)
	Negative feelings: nervousness, fear of the test and results, shame	[...] it makes you nervous both during the test and when receiving the results, because when the result comes fast, people say it's because there's something wrong. (I10R) [...] I've felt afraid too, I'm always very scared, afraid of doing it, embarrassed like all women are, and when getting the results too, we're already scared, thinking something will come up, some abnormality. I'm really scared too. (I3R)
	Past risky behavior	[...] I think every woman is afraid of the result, of doing it and... oh, because I've done things back then, way back in my past, and now I might get something... uh... a disease... that's it. (I22P)

Chart 2 – Cont.

Subcategory	Main results	Excerpts from Focus Groups
Contextual barriers	Leaving riverside communities to receive care	[...] but I think it's hard, because we come from the countryside, and we need a slot like today. I came and couldn't get one. Then we're left outside, and they say it's someone else's line, and then we can't get it, right? It gets harder. We come from far away to see if we can get it, right? (I14R) [...] I, for example, live in the rural area, I come by boat, and I stay in a neighborhood far from the clinic. I have to leave at 4 a.m. to get a slot, and it's dangerous. (I6R)

■ DISCUSSION

This study aimed to identify the facilitators and barriers to CC prevention behaviors among women in Coari, Amazonas. According to the HBM, the belief that an action will reduce susceptibility to a health problem encourages the adoption of this behavior, regardless of other factors⁽¹³⁾.

The availability of preventive screenings in riverside communities by Fluvial Health Units was reported as a benefit. These benefits are related to the perceived effectiveness of a health-promoting behavior in reducing the risk of disease⁽¹³⁾. Fluvial health teams provide primary care to populations in remote locations and are an alternative for increasing health coverage, but they have limitations^(11,21).

Some women reported undergoing preventive tests to maintain their *Bolsa Família* benefits, a behavior encouraged by federal incentives, a finding also observed in a systematic review study with women in Nigeria, which found a relationship between the Cash Transfer Programs and increased access to healthcare services⁽²²⁾. Another benefit perceived by women was the encouragement of health professionals to undergo the test. These findings are similar to a study conducted in two primary care units (urban and rural) in the city of Kigali, Rwanda, where women reported that one of the motivations for undergoing Papanicolaou testing was encouragement from healthcare professionals during routine appointments⁽⁸⁾.

On the other hand, many barriers to Papanicolaou testing were identified. According to the HBM, the fewer the perceived barriers, the greater the acceptance of screening, as people tend to act positively toward their health when the expected benefits of a given action outweigh the barriers⁽¹³⁾.

The delay in receiving the test results was cited by women as a barrier to screening. This data highlights limited access to CC screening services and the fragility of the healthcare system, hindering early diagnosis and timely treatment.

This barrier was also reported by women in other studies, in which the lack of available services was a factor hindering CC screening^(10–12).

The shortage of health services and professionals in rural riverside areas has also been identified in other studies as a barrier to adopting preventive behaviors^(6,21,22). A review study conducted with women in rural areas found limited access to healthcare services and a shortage of medical facilities and professionals associated with reduced access to health recommendations, and financial difficulties⁽¹⁰⁾.

Improving the quality of the health system can be achieved by expanding access to healthcare services and incorporating quality assurance measures^(11,12). Easier access to healthcare services is a strong motivation for screening; however, simply expanding healthcare services does not always lead to increased coverage of preventive screenings; a comprehensive approach is required, addressing several factors that influence screening adherence rates^(7,9,12).

Lack of knowledge about the purpose of the Papanicolaou test, another barrier, suggests a lack of understanding of its benefits and susceptibility to the disease. The HBM is based on the premise that for an individual to adopt preventive behaviors regarding a disease, they must believe they are susceptible and recognize its severity⁽¹³⁾. Evidence from other studies indicates that lack of information about CC is a significant barrier to screening^(5–7). This barrier is also evident in young women, who are below the recommended screening age.

Younger age has been proposed as a risk factor for more aggressive CC. A study conducted with Korean female university students aged 20 to 29 years showed that the majority (89%) of participants were unaware of cervical screening and had low levels of knowledge and perception about CC and its screening, highlighting the need for education to increase awareness and knowledge about screening in this population⁽²³⁾.

A lack of understanding about the test was also highlighted in a study conducted among rural women living with HIV treated at public health units in Uganda, where barriers to understanding CC screening information were rude healthcare professionals, contradictory information, long health education sessions, and a lack of individual health education sessions⁽²⁴⁾.

Incompatibility between work schedules and healthcare service hours were a perceived barrier to screening, hindering screening and appointments. These findings are consistent with other studies that indicate the overload of women who often perform household tasks, childcare, and work-related tasks, leaving them with no time to undergo screening^(8,9,12). It is essential to remind women of the crucial role of preventive tests, emphasizing the need to prioritize them in their lives. Extending clinic hours is a strategy that could facilitate access to these tests.

Participants reported that waking up in the early hours of the morning to go to the health facility and not always being able to obtain a service slot hindered the test. This finding confirms the results of other studies, which also identified the lack of appointment slots as an institutional barrier to preventive tests^(9,11,12). Expanding access to healthcare services and incorporating measures to ensure quality of care can help improve the health system.

The financial difficulty in accessing healthcare services and undergoing Papanicolaou test was identified as a perceived barrier, particularly among riverside women, who must travel by boat or canoe, incurring travel or fuel costs, as evidenced in other studies^(6,9).

In the Amazon region, geography, floods, and droughts increase the difficulty in accessing preventive care, as observed in several studies^(11,21). Perceived barriers may hinder preventive behaviors, and according to the HBM, such barriers may involve financial costs, required effort, or situations that cause discomfort or pain⁽²⁵⁾.

The vaginal speculum used during the Papanicolaou test was mentioned as a source of pain/discomfort, but this discomfort was reported by few women, not constituting a significant barrier to undergoing the test, which differs from other studies^(6-8,12,21).

Undergoing the test with a male professional was identified as a source of discomfort, fear, and embarrassment for most women, constituting a significant cultural barrier. A study conducted with women in Iran revealed that the most prevalent psychological states reported by participants were embarrassment, fear of the physical testing, unfavorable test results, pain during the test, and possible misdiagnosis.

Participants also cited the embarrassment associated with vaginal tests as a barrier, as these procedures require the exposure of their intimate organs⁽²⁶⁾.

Obstacles imposed by husbands were also identified as a barrier, especially when the professional was male. Lack of support from family members, particularly their husbands, can significantly impact women's reluctance to undergo the test. It is inferred that these women may lack autonomy to make decisions about their well-being, which may require their husband's permission to undergo testing, highlighting possible domestic violence. Such cultural barriers have been identified as obstacles to screening in other studies^(7-9,12).

Domestic violence against women is a public health issue that can manifest in physical, psychological, moral, sexual, and economic forms, and is associated with factors such as gender inequality and patriarchal cultural norms⁽²⁷⁾. Exposure to violence often drives women to seek support from health services, particularly in Primary Care settings.

Nursing consultations represent a valuable opportunity to hear stories and complaints, allowing women to express their anxieties and concerns, becoming a facilitator in recognizing domestic violence. To this end, there is a need to train professionals so that nurses can create a safe, welcoming, humane, and confidential environment, with active and qualified listening, ensuring appropriate referrals to specialized support services and helping to dismantle the foundations of gender inequality⁽²⁸⁾.

Since ancient times to the present day, many women have experienced sexuality in a limited way, limited to reproduction⁽²⁸⁾. In the patriarchal model of social organization, men occupy the central role in decision-making, which weakens women's autonomy over their own bodies and reinforces a limited exercise of sexuality⁽²⁹⁾. The comprehensive care approach to women's health recognizes that sexual health is an essential dimension of overall health, influencing physical, emotional, social, and cultural aspects. The premises of comprehensive care involve actions of prevention, promotion, treatment, and recovery, respecting its diversity and ensuring equitable and quality access to healthcare services⁽²⁹⁾.

Past risk behaviors have also been reported as a barrier to screening, which may be related to the fear of discovering a potentially serious disease. A fatalistic view of CC diagnosis has been identified as a barrier in other studies^(6,8,22). It is inferred that, for women, a positive result was presumed to be a death sentence, making it better not to undergo testing. Similarly, data from another study revealed that fear of a positive screening result prevented women from getting tested⁽²²⁾.

Health beliefs that influence women's willingness to undergo screening need to be identified, as low screening adherence rates persist⁽³⁰⁾. In this context, health education is recognized as a fundamental resource for changing women's attitudes toward preventive tests.

A study conducted with women in Egypt, using HBM to provide and change knowledge, perceptions about CC, and screening practices, proved effective, demonstrating the potential contribution of HBM to improving CC prevention actions in different healthcare settings⁽³⁰⁾. Nurses play a key role in educating the population and should work to demystify dysfunctional beliefs and empower women in making informed health decisions.

In 2020, the WHO proposed a global strategy to accelerate the elimination of CC as a public health problem. This strategy states that all countries should reach and maintain an incidence rate below 4 per 100,000 women. Additionally, by 2030, countries should aim to vaccinate 90% of girls by age 15, screen 70% of women at ages 35 and 45, and treat 90% of women with pre-cancerous lesions or invasive cervical cancer⁽³¹⁾. The findings from this study may contribute to the development of strategic actions in national CC screening programs, including improvements in service organization, training of professionals to ensure high-quality testing, transition to alternative screening strategies such as self-sampling, and active identification and outreach to women who do not have access to screening.

This study has limitations that should be considered. In the FG, participants may have felt pressured to agree or not express opposing opinions due to the influence of other participants. Furthermore, the study participants were recruited through selection from health care users, which may have contributed to inaccuracies in identifying the specific needs of women with greater difficulty accessing healthcare services. This limitation could have been addressed through household surveys.

Some findings, such as obstacles and threats from husbands who were opposed to having the test with a male professional, and negative feelings during the test, could be better explored in qualitative studies based on individual interviews, which would allow greater access to participants' subjective issues. Additionally, the study could not analyze differences by age group and did not include women who have never undergone the Papanicolaou test. On the other hand, this study provides contextual and cultural insights that can inform future CC prevention efforts in the Amazon region and other hard-to-reach settings.

■ CONCLUSION

Access to healthcare services and testing, along with encouragement from healthcare professionals, were identified as the main facilitators for undergoing the Papanicolaou test. In this regard, home visits, the establishment of strong bonds between women and healthcare professionals, the presence and expanded use of Fluvial Health Care Unit, and investments in community communication within riverside communities may be helpful.

On the other hand, difficulty accessing health services, evidenced by the lack of appointment slots, shortage of professionals, delays in test results, and lack of information about the test, was the main barrier identified. Structural measures related to healthcare service management, such as expanding the availability of tests, implementing alternative collection schedules, and educational initiatives focused on prevention and health promotion within the Primary Health Care context, can contribute to the screening and early identification of CC.

Psychoemotional aspects such as shame, fear, embarrassment, gender-related issues, and fatalism were also identified as barriers to Papanicolaou testing. Continuous training for nursing staff on how to address gender-based violence is necessary to ensure active and qualified listening to victims. Psychoeducational interventions focused on restructuring dysfunctional beliefs should be encouraged to reduce these barriers. Interventions focused on strengthening facilitating factors and overcoming identified barriers should be tested in future studies.

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Access to the dataset can be obtained upon request to the corresponding author.

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