

FACTORS ASSOCIATED WITH NON-ADHERENCE TO PAP SMEAR TESTING: THE INFLUENCE OF SOCIODEMOGRAPHIC AND CLINICAL CONDITIONS

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Abstract: The present study aimed to analyze the factors associated with non-adherence to cervical cancer screening. An integrative literature review was conducted, and articles retrieved from the secondary databases Virtual Health Library, Latin American and Caribbean Health Sciences Literature, Scientific Electronic Library Online, and Online System for Searching and Analyzing Medical Literature were analyzed using the keywords Pap smear test; primary health care; and basic care. The main factors identified are individual factors: fear, embarrassment, pain, discomfort, lack of knowledge about the exam; sociodemographic factors: low education, low income, race/color, multiparity; and service-related factors: difficulty of access (schedules, transportation), poor infrastructure, lack of supplies, delays in delivering results, and weak connection with the healthcare professional. The analysis of factors associated with non-adherence to cervical cancer screening (Pap smear) revealed a complex intersection of barriers that need to be addressed in order to increase coverage rates and, consequently, reduce morbidity and mortality from this neoplasm.

Keywords: pap smear test; primary health care and basic care.

INTRODUCTION

Cervical cancer is the third most common type of malignant cancer in women in Brazil and other developing countries. Its prevalence is higher than that of skin and breast cancer. It is estimated that 520,000 new cases are registered annually, and approximately 270,000 women who develop cervical cancer die as a result of the development of serious cancerous lesions (MS, 2018).

This cancer is characterized by the replication of the epithelium lining the uterus, resulting in the involvement of underlying tissues. This process may or may not affect the organs and structures of the region. There are two types of invasive carcinomas that vary according to the origin of the affected epithelium. Adenocarcinoma is rarer, affecting the glandular epithelium and accounting for 10% of cases; the other is squamous cell carcinoma, more frequent, affecting the squamous epithelium and accounting for 80% of cases. The development of this disease occurs slowly. In the initial phase, it can cause symptoms and progress to vaginal bleeding after sexual intercourse, intense abdominal pain, and urinary complaints (Silva et al., 2015).

The main cause of cervical cancer is related to infection with the Human Papillomavirus (HPV). Other factors may also be related, such as early onset of sexual activity, sexual activity with multiple partners, genetic inheritance, HIV infections, among others reported in the literature (Osís; Duarte; Sousa, 2014). HPV infection is directly related to the development of cervical cancer. There are approximately 140 different HPV genotypes; however, around 40 of them have the ability to infect the genital tract. Genotypes 16 and 18 are characterized as having the highest risk, as 70% of cervical cancers are caused by these genotypes (Albuquerque et al., 2016).

In Brazil, the Pap smear test is used for screening for this cancer. This test is offered in both public and private health services and primarily targets women who are sexually active. Menopausal women, those who have undergone hysterectomy, pregnant women, and virgins can also take the test,

even if they are not sexually active. Furthermore, the Ministry of Health recommends that women aged 25 to 59 undergo the test (Dantas et al., 2018). This is among the most effective screening methods, performed by collecting a small cell sample from the cervical and vaginal epithelium, which is then microscopically evaluated to confirm the presence or absence of cancer (Ercole; Melo; Alcoforado, 2014). Based on clinical practice related to cervical cancer prevention, especially regarding screening, high rates of non-adherence among women to undergoing Pap smear tests are evident. In this sense, the present study seeks to analyze the factors associated with non-adherence to cervical cancer screening.

METHODS

An integrative literature review was conducted. This approach was adopted because it allows for the combination of data from investigative and theoretical research, which can thus be directed towards conceptualizations, recording gaps in research areas, theoretical review, and methodological analysis of studies on a specific subject, allowing for literature analysis (Ercole; Melo; Alcoforado, 2014).

In this sense, six interdependent and interrelated phases were considered: elaboration of the guiding question, literature search or sampling, data collection, critical analysis of the included studies, discussion of the results, and presentation of the integrative review. The guiding question was defined as: What factors are associated with non-adherence to cervical cancer screening? (Souza; Silva; Carvalho, 2010).

The collection of studies was carried out through electronic searches in the following databases available in the Virtual Health Library (BVS), Latin American and Caribbean Literature in Health Sciences (LILACS), the Scientific Electronic Library Online (SciELO) and Medical Literature Analysis (MEDLINE).

Inclusion criteria included full articles available electronically, in Portuguese, English, or Spanish, that addressed the proposed theme in the title, abstract, or descriptors. Regarding ineligibility

criteria, letters to the editor, editorials, duplicate articles, and those that did not unequivocally address the subject matter of the study were considered.

The survey of studies was conducted between August and December 2025. As research strategies, the Health Sciences Descriptors (DeCS) were used, retrieved from the website: <https://decs.bvsalud.org/>, which were Pap smear test; primary health care and basic care. To refine the search and better select the data for analysis, the Boolean operator AND was used to combine the selected descriptors.

For data collection, an instrument validated by Ursi (2005) for integrative reviews was developed, encompassing the following categories of analysis: identification code, publication title, author and author's background, source, year of publication, type of study, region where the research was conducted, and the database in which the article was published. After selecting the articles, the information to be extracted from the studies was defined. To facilitate the collection of information, a database created in Microsoft Office Excel 2010 was used, composed of the following variables: article title, year of publication, study design, and main outcomes. The data obtained were grouped into a table and thematic approaches and interpreted according to specific literature.

RESULTS

Eleven studies that met the eligibility criteria were included in this review; the titles and main outcomes of the analyzed studies are described in the table below (Table 1).

Table 1. Studies included in the review and the characteristics evaluated.

Títulos	Principais desfechos
Factors influencing women's non-adherence to Pap smear testing.	Key factors contributing to non-adherence include: low education level, low socioeconomic status, young age, discomfort, nervousness, anxiety, apprehension, shame, embarrassment, fear, and taboos. Health aspects include not using contraceptives and the absence of gynecological symptoms.

Factors associated with non-adherence to Pap smear testing among women served by the Family Health Strategy in Feira de Santana, Bahia	Non-adherence was significantly higher among women who had never attended school, had four or more children (multiparity), and were not using contraception. It was concluded that women with risk factors for cervical cancer (low education level, multiparity) had lower than expected coverage.
Factors that interfere with women's non-adherence to the Pap smear test	The factors relate to the presence of social and racial inequalities, individual factors (such as fear/shame), deficient conditions and provision of health services (lack of supplies, overload), and insufficient coverage of testing.
Barriers to Pap smear testing according to users and professionals of the Family Health Strategy in Vitória da Conquista - BA	Psychological barriers: Shame, modesty, and preconceived ideas about the exam (based on negative experiences of other women). Access/structural barriers: Lack of space, materials, and resources in health units. Social factors: Low socioeconomic level and insufficient knowledge about the exam.
The importance of factors associated with non-adherence to cervical cancer screening among Brazilian women.	Key determinants include low education level, low family income, brown/black race/skin color, lack of health insurance, and not having seen a doctor in the last 12 months. Social inequality in access to healthcare services was a recurring finding.
Factors that interfere with users' adherence to Pap smear testing within the context of primary health care.	Factors with the highest prevalence: Lack of knowledge and inadequate practices, access barriers (lack of time, difficulty with schedules), beliefs and feelings (fear of pain, fear of results, religious views). Offering the exam alone through primary health care does not guarantee adherence.
Factors associated with not undergoing a Pap smear: a population-based cross-sectional study in two Brazilian capitals.	Low educational attainment and lower per capita income, older age, being unmarried, and smoking were the most common reasons for not undergoing the examination.
Factors that hinder women's adherence to Pap smear testing.	Difficulty in scheduling, lack of time (working every day), and the perception that the highest-risk age group (young people) is the one that least gets tested.
Failure to undergo Pap smear testing and risky behaviors in sexually active women	The main reason for not participating was shame. Young women, with early onset of sexual activity and income below the minimum wage, which are risk factors, still cited shame as a barrier.
Factors associated with non-adherence to cervical cytology screening in primary care.	Non-adherence is strongly related to a lack of information about the importance of the examination and to the woman's unfavorable socioeconomic conditions.
Factors related to non-adherence to undergoing a Pap smear test.	Failure to attend the scheduled exam was mainly due to beliefs and attitudes (myths and taboos) and the organization of the service (administrative failures). Feelings reported: shame, discomfort, and pain.

Source: study data.

DISCUSSION

This study evaluated the factors associated with non-adherence to cervical cancer screening.

In this sense, non-adherence to the Pap smear, or cervical cytology, represents one of the greatest challenges in the control and eradication of cervical cancer, a highly preventable neoplasm. The findings of this study, by identifying the factors associated with this non-adherence, reinforce the global scientific literature, which consistently points to the multifaceted nature of preventive barriers (INCA, 2020).

The cytopathological examination for cervical cancer is the most widely used worldwide for cervical cancer screening for over 50 years and aims to identify neoplastic lesions in early stages, seeking to prevent the progression and worsening of this disease, as well as reduce the mortality rate from this pathology. Therefore, ensuring the comprehensiveness of the health prevention process and the quality of screening is essential (INCA, 2020).

Thus, with the adoption of cytopathological examination, it is possible to discover cervical cancer early, and the tumor in its initial phase, with a greater possibility of effective and less complex treatment. In other words, periodic examinations allow for better mapping and consequently the attenuation of the aggravation and illness of people with a uterus who may be diagnosed with cervical cancer, bringing benefits to both society and health services (INCA, 2020; Arbyn et al., 2020).

The World Health Organization (WHO) establishes screening as a central pillar in its strategy for eliminating cervical cancer. However, the goal of 70% screening coverage among eligible women is frequently compromised by issues that transcend the health system, being rooted in social and economic determinants (Arbyn et al., 2020).

One of the most prominent factors identified in our analysis is low education and unfavorable socioeconomic status. The association between low educational level and non-adherence suggests a limitation in access to and understanding of complex health information, which can impact risk perception and the prioritization of preventive care. This correlation is corroborated by national and international studies that demonstrate that poverty is a consistent predictor of unfavorable health outcomes and lower use of preventive services (Anjos et al., 2022).

Furthermore, the age variable deserves highlighting. Often, younger women report a perception

of low risk and sexual inexperience as justifications for not undergoing their first examination. On the other hand, older women, frequently with less access to information about maintaining the frequency of examinations, or with physical and mobility barriers, also present high rates of non-adherence, configuring two distinct groups that require specific approaches (Silva et al., 2023).

Although the Pap smear test is available free of charge in the Brazilian Unified Health System (SUS), programmatic and access barriers stand out as significant obstacles (Trego et al., 2021).

The difficulty in scheduling appointments, the prolonged waiting time, and the inadequacy of the operating hours of Basic Health Units (UBS) to women's work schedules are consistently cited as impeding factors. These aspects reflect a failure in the organization of the service that does not consider the social reality of the target audience, transforming a simple exam into something complex (Silva et al., 2021).

Inadequate reception and lack of privacy during the procedure were also reported. The negative experience in the health service, often associated with pain or embarrassment, can generate a deterrent effect, leading women to avoid future returns. This underlines the need to invest not only in the quantitative availability of exams, but also in the humanized quality of care offered (Ferreira et al., 2022).

Many women with adequate knowledge about the importance of the exam still report not having it done at the recommended frequency. This indicates the presence of attitudinal and motivational barriers that the health system needs to address. Furthermore, the perception of fear—fear of the result, fear of the procedure (pain), or fear of social stigma (associated with sexual health)—emerges as a strong catalyst for non-adherence. Denial of the disease, or the belief in personal invulnerability, acts as a defense mechanism that delays the search for preventive care. It is imperative that health education programs address cervical cancer screening from a less punitive and more empowering perspective, integrating the topic of sexual and reproductive health in a comprehensive and judgment-free manner (Fernandes et al., 2019).

The persistence of high non-adherence rates demonstrates that current interventions are

insufficient. The data obtained point to the urgency of a paradigm shift: from passive screening, where women are expected to seek it out, to an active and strategic approach. Actively seeking out women in at-risk age groups, using personalized communication tools (such as reminders via phone or apps), and integrating screening into other routine consultations (such as family planning) are promising strategies (Silva et al., 2017).

Ultimately, non-adherence to Pap smear testing is a problem that reflects health inequities. Overcoming these barriers requires a political and financial commitment that ensures universality, quality, and, above all, humanization of care, guaranteeing that all women have a real opportunity to benefit from the test that can save their lives.

CONCLUSION

The analysis of factors associated with non-adherence to cervical cancer screening (Pap smear) revealed a complex intersection of barriers that need to be addressed to increase coverage rates and, consequently, reduce morbidity and mortality from this neoplasm.

The findings of this study highlight that non-adherence is intrinsically linked to factors of diverse natures, ranging from sociodemographic aspects (such as low education and unfavorable socioeconomic status) to programmatic barriers and access to health services (difficulty in scheduling, waiting time, location of the unit).

In addition, significant behavioral and knowledge factors were evidenced, such as fear of the result, lack of adequate information about the importance and frequency of the examination, and cultural or gender issues that may influence a woman's autonomy in decision-making. The perception of low risk and the absence of symptoms also proved to be motivators for neglecting prevention.

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