

Cytopathological Test: The Influence of Social Determinants of Health on Non-Undergoing Testing

Teste Citopatológico: A Influência dos Determinantes Sociais de Saúde para a Não Realização do Exame
Prueba Citopatológica: La Influencia de los Determinantes Sociales de la Salud en la no Realización de Pruebas

RESUMO

Objetivo: Analisar os fatores que influenciam negativamente a adesão de pacientes assistidas pela Estratégia de Saúde da Família à realização do teste de Papanicolaou. **Método:** Estudo descritivo-exploratório com abordagem quantitativa. A amostra incluiu 230 mulheres entre 25 e 65 anos, selecionadas por conveniência. Os critérios de inclusão foram: ser mulher, usuária da unidade Dom Bosco em Guaíçara, São Paulo, ter vida sexual ativa e assinar o Termo de Consentimento Livre e Esclarecido. **Resultados:** Observou-se adesão de 73% ao teste citopatológico. Apesar dos determinantes sociais de saúde, a utilização do serviço foi alta. **Conclusão:** Constatou-se a eficiência da equipe local, visto que a população, mesmo vulnerável, apresenta alto índice de adesão. Contudo, a frequência não cumpre integralmente as diretrizes ministeriais, pois 22% das pacientes relataram intervalos de três a cinco anos sem realizar o exame.

DESCRIPTORES: Teste de Papanicolaou. Neoplasia do Colo do útero. Determinantes Sociais de Saúde.

ABSTRACT

Objective: To analyze the factors that negatively influence the adherence of patients assisted by the Family Health Strategy to the performance of the Papanicolaou test. **Method:** Descriptive-exploratory study with a quantitative approach. The sample included 230 women between 25 and 65 years old, selected by convenience. The inclusion criteria were: being a woman, a user of the Dom Bosco unit in Guaíçara, São Paulo, being sexually active, and signing the Informed Consent Form. **Results:** An adherence of 73% to the cytopathological test was observed. Despite the social determinants of health, the utilization of the service was high. **Conclusion:** The efficiency of the local team was noted, given that the population, even if vulnerable, presents a high rate of adherence. However, the frequency does not fully comply with ministerial guidelines, as 22% of the patients reported intervals of three to five years without undergoing the exam.

DESCRIPTORS: Papanicolaou Test. Cervical Neoplasia. Social Determinants of Health.

RESUMEN

Objetivo: Analizar los factores que influyen negativamente en la adhesión de las pacientes atendidas por la Estrategia de Salud de la Familia a la realización de la prueba de Papanicolaou. **Método:** Estudio descriptivo-exploratorio con enfoque cuantitativo. La muestra incluyó a 230 mujeres de entre 25 y 65 años, seleccionadas por conveniencia. Los criterios de inclusión fueron: ser mujer, usuaria de la unidad Dom Bosco en Guaíçara, São Paulo, tener vida sexual activa y firmar el Termo de Consentimiento Libre y Esclarecido. **Resultados:** Se observó una adhesión del 73% a la prueba citopatológica. A pesar de los determinantes sociales de la salud, la utilización del servicio fue alta. **Conclusión:** Se constató la eficiencia del equipo local, dado que la población, aun siendo vulnerable, presenta un alto índice de adhesión. Sin embargo, la frecuencia no cumple íntegramente las directrices ministeriales, ya que el 22% de las pacientes informaron intervalos de tres a cinco años sin realizarse el examen.

DESCRIPTORES: Prueba de Papanicolaou. Neoplasia de cuello uterino. Determinantes sociales de la salud.

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INTRODUCTION

The Brazilian public health system is undergoing continuous structural and organizational changes, which have significant implications for various aspects of public health and the population's adherence to treatments offered by health units. A significant influence linked to the social determinants of health has been observed, leading to the need for various lines of research and specific studies in the sector, particularly regarding guidance, planning, and factors that influence non-adherence to preventive screening⁽¹⁾.

Pap smear is the name given to the cytological test performed for the screening and early detection of cervical neoplasia; it was named in honor of its creator, the Greek pathologist *Georges Papanicolaou*⁽¹⁾. The Pap test is effective in the early detection of cervical neoplasia, reducing the mortality rate from this disease by up to 70%. The cytopathological test can detect cellular changes and precancerous lesions⁽²⁾.

The *Pap* test is the most effective method, as it allows for the early detection of lesions and enables early diagnosis. Furthermore, the role of the nurse is fundamental in health care initiatives within Family Health Strategy (ESF) units, providing patients with ethical and humane care, as well as offering guidance to these women regarding the exam and building a bond of trust with the patient. However, the persistence of low adherence rates at the Dom Bosco FHS unit in the municipality of Guaiçara, São Paulo, suggests the need to investigate the factors contributing to the failure to undergo the test, especially those related to social determinants of health (SDH), which are highly prevalent in the unit's service area⁽³⁾.

This study aims to evaluate the factors—with an emphasis on the social

determinants of health—that influence the refusal of women treated at the Dom Bosco/Guaiçara-SP Family Health Strategy Unit to undergo the preventive Pap smear test.

METHOD

This study aims to address the current issue of how social determinants of health influence non-adherence to the Pap smear test. It is of utmost importance to ensure the quality of the references to guarantee objectivity and the ability to achieve the pre-established objectives.

This is a descriptive-exploratory study with a quantitative approach. The research was conducted at the Dom Bosco Family Health Strategy unit in the municipality of Guaiçara, São Paulo. The study sought to analyze the influence of social determinants of health on adherence to the Pap smear test, aiming to provide insights for the effectiveness of local preventive actions.

The sample consisted of users of the aforementioned health unit. Selected by convenience, it totaled 230 women.

Inclusion Criteria: Being female, a patient at the Dom Bosco unit, aged between 25 and 65 years, sexually active, a patient at the health unit, and agreeing to participate voluntarily by signing the Informed Consent Form (ICF).

Exclusion Criteria: Women outside the established age range, who had not yet become sexually active, or who did not reside within the unit's service area.

Data collection took place between June 2024 and June 2025, using a structured questionnaire developed by the authors. The instrument underwent face and content validation by faculty experts at the University Center of Lins – UNILINS and was organized into three blocks of guid-

ing questions: (1) Sociodemographic profile (age, education level, religion, and income); (2) Health practices (frequency of Pap smear testing and knowledge of its purpose); and (3) Determinants of non-adherence (physical, organizational, and cultural barriers).

In compliance with Resolution No. 466/2012 of the National Health Council, the study prioritized participant protection. Before data collection began, each participant was individually informed about the study's objectives, benefits, and risks. Consent and voluntary participation were formalized through the signing of the Informed Consent Form (ICF) in duplicate, guaranteeing anonymity and the right to withdraw at any time.

The risk of emotional distress due to the intimate nature of the questions was identified. To mitigate this factor, it was stipulated that, in the event of any discomfort, the interview would be interrupted and the participant would be supported by the team, with additional support from the UNILINS Psychology Department if necessary. The project was approved by the Research Ethics Committee (CEP) under opinion number 6.906.887 and received the Certificate of Submission for Ethical Review (CAAE) under number 80042924.8.0000.5496.

The research contributed to advancing studies on the influence of social determinants on adherence to Pap smear exams within the scope of the Dom Bosco Family Health Strategy.

For the theoretical framework and data discussion, a literature review was conducted in the SciELO and Google Scholar databases, selecting 16 references (including scientific articles and technical manuals) published predominantly between 2010 and 2021. Quantitative data were processed using Microsoft Excel 2025 software for descriptive statistical analysis and the creation of graphs.

RESULTS

For this study, interviews were collected from 230 sexually active women aged 25 to 65, and three specific scientific articles were used on the influence of social determinants of health on adherence to cytopathological testing. These were used as search

tools with the keywords “Pap smear,” “Cervical neoplasia,” and “Social determinants of health.” The databases used were the Scientific Electronic Library Online (SciELO) and Google Scholar. These platforms were the databases that most closely matched the results.

later stages, demonstrating engagement across various life stages.

These observations suggest a greater presence of younger women and continued participation into older ages, with fluctuations across certain age groups. This distribution can be useful for understanding where to focus engagement and support activities for different age groups.

Next, the educational level of the participants served by the Dom Bosco Family Health Program (ESF) in Guaiçara, São Paulo, was presented, clearly showing the predominance of incomplete elementary school education (32%): indicating that a large portion of the population did not complete elementary school, suggesting educational barriers such as early school dropout.

Subsequently, the religious affiliation of the study participants was characterized: the results showed that the vast majority of participants are either Evangelical (46%) or Catholic (44%). The predominance of Catholicism and Evangelicalism suggests a strong presence of Christian traditions, while other religious affiliations form a minority.

This concentration may influence cultural, social, and even political aspects related to religious diversity, highlighting the importance of ensuring minority representation and adherence to cytopathological testing.

Most of the population (89%) has an income of up to one minimum wage, indicating a predominance of low incomes, which impacts quality of life and access to consumer goods and services, and limits economic growth among the lower-income population. This demonstrates the social and economic vulnerability of the study's participants.

Figure 1 below shows the rate of cytopathological testing performed by the facility.

Table 1: Sociodemographic and academic data of the study participants, Guaiçara-SP, 2022.

Sample Characterization		n	%
Age	25 to 30 years	52	23%
	31 to 36 years old	29	13%
	Ages 37 to 42	24	10%
	Ages 43 to 48	35	15%
	Ages 49 to 54	15	6%
	55 to 60 years old	36	16%
	61 to 65 years old	39	17%
Education	Incomplete elementary school	74	32%
	Completed elementary school	44	19%
	High School (incomplete)	46	20%
	High School Graduate	34	15%
	Technical Education	17	7%
	Higher Education	15	7%
Religion	Catholic	101	44%
	Evangelical	105	46%
	Spiritist	20	9%
	Candomblé	0	0%
	Other	3	1%
	I don't know / I don't want to answer	0	0.0%
Wage Income	Up to 1 minimum wage	204	89%
	Up to 2 minimum wages	19	8%
	Up to 3 minimum wages	7	3%

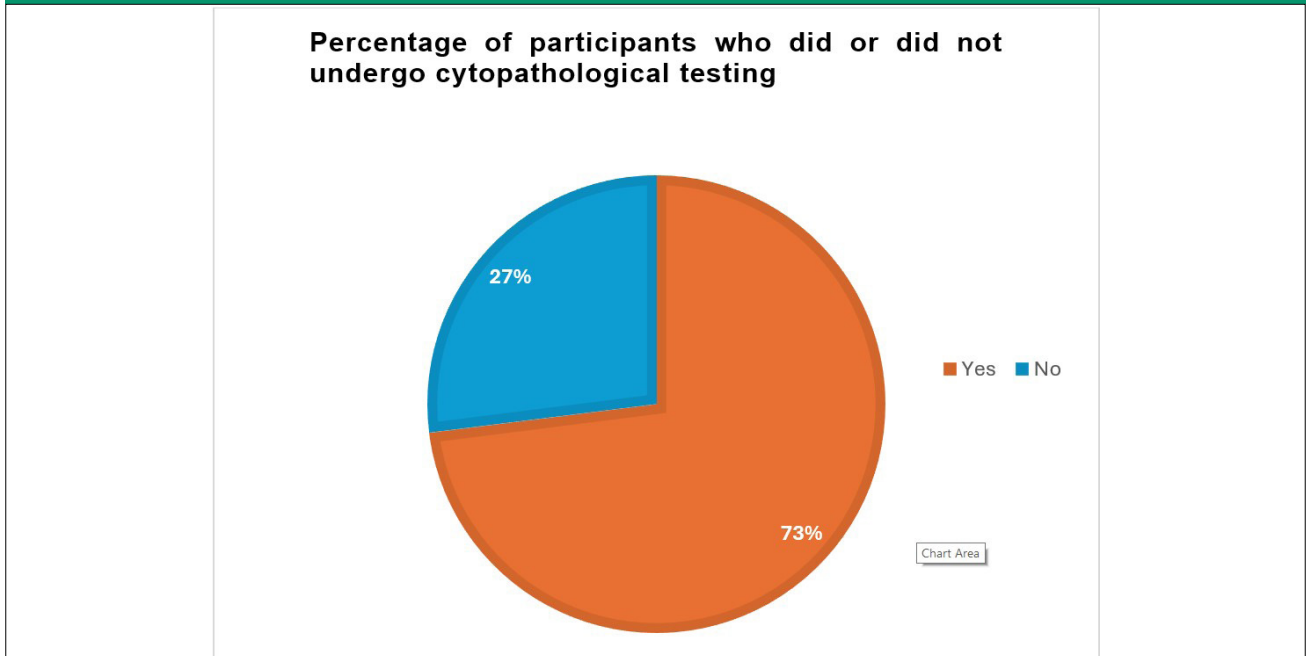
Source: Prepared by the authors, 2025.

Women were categorized by age group, with seven age categories. Examining the data, several trends emerge, particularly among the most represented age group: The 25–30 age group represents a young cohort at the beginning of their careers, which may

indicate a growing interest among younger women in the context of this study.

The results also showed a significant number of women in the 61–65 age group and the 55–60 age group. This may indicate a pattern of involvement both in early adulthood and in

Figure 1: Graph illustrating the percentage of study participants who did or did not undergo the cytopathological test, Guaiçara-SP, 2025.



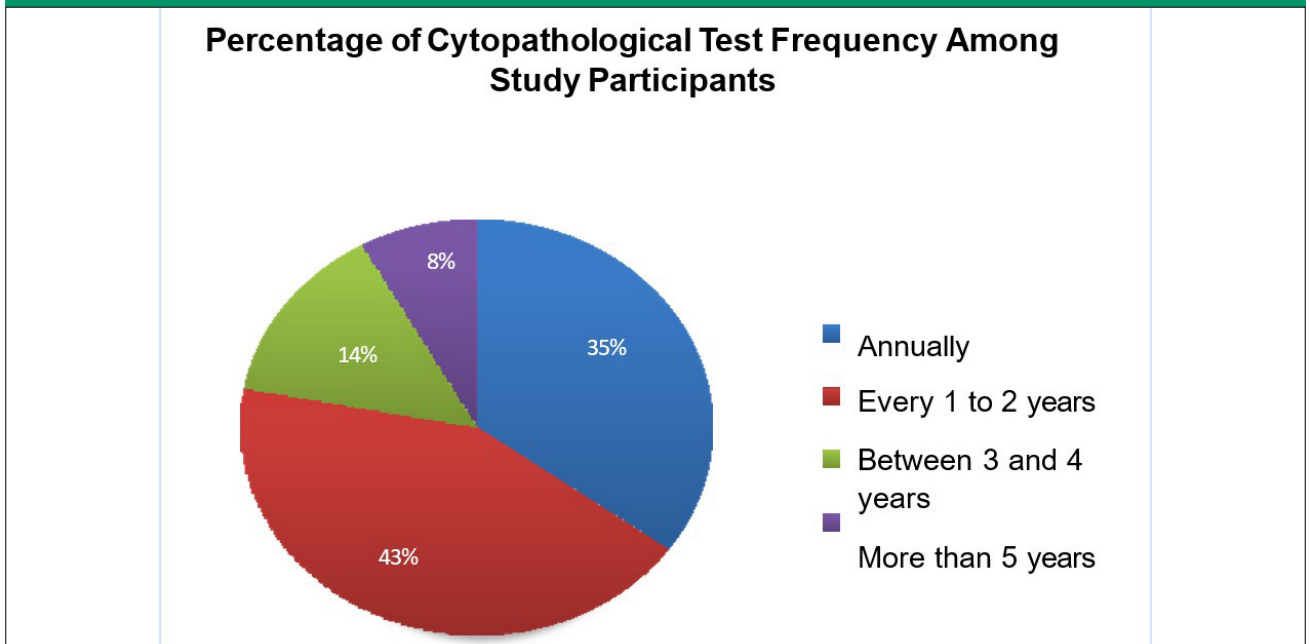
Source: Prepared by the authors, 2025.

Figure 1 reveals the effectiveness of the Dom Bosco Family Health Pro-

gram (ESF), reaching a rate of 73% of patients who underwent the cytopathological test. This demonstrates

that despite the negative influence of social determinants, patients generally adhere to undergoing the test.

Graph 2: Graph illustrating the frequency of Pap smear testing among study participants, Guaiçara-SP, 2025.



Source: Prepared by the authors, 2025.

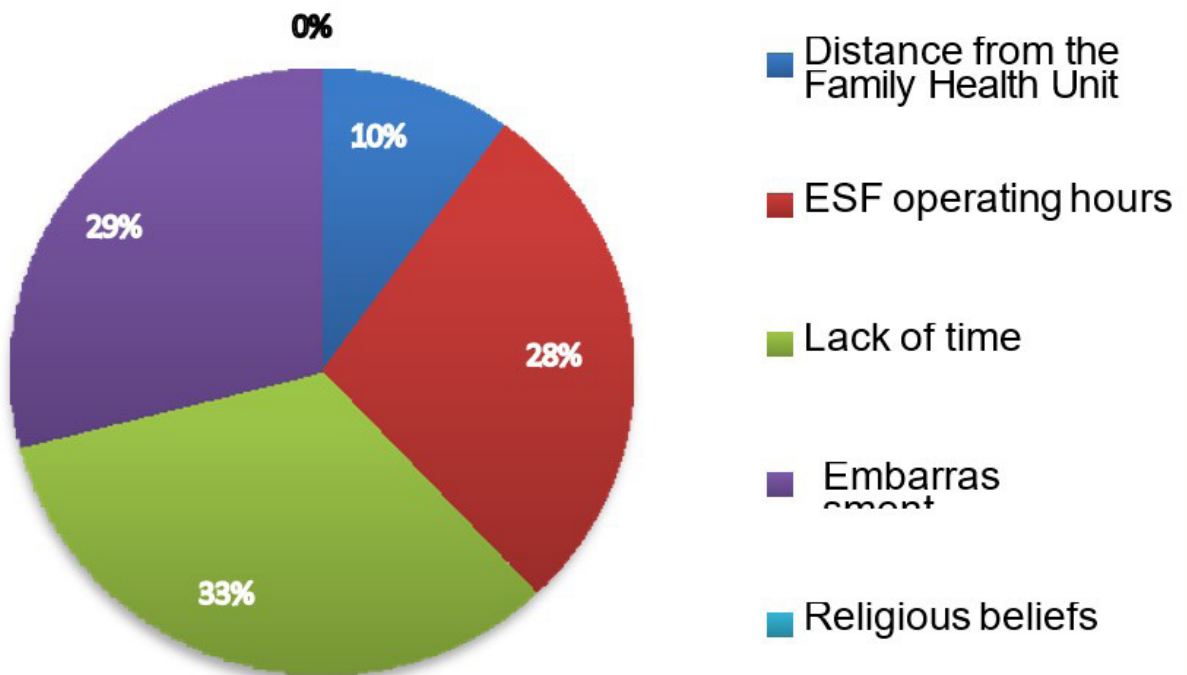
It can be observed that the annual frequency of screening among patients treated at the clinic indicates that they go from 3 to more than 5 years without undergoing the exam, which con-

tradicts the recommendations of the Ministry of Health, revealing significant data regarding women's health in the municipality, as shown in Figure 2.

Subsequently, the collected data revealed the relevant reasons for not undergoing the exam, as shown in Figure 3.

Graph 3: Graph illustrating the percentage of reasons cited by survey participants for not undergoing the cytopathological test, Guaíçara-SP, 2025.

Percentage of reasons cited by survey participants for not undergoing the cytopathological test.



Source: Prepared by the authors, 2025.

The graph shows that the most significant reason for not undergoing the cytopathological test is lack of time (33%), indicating that formal work, daily tasks, and family care still represent a significant barrier. The second most prevalent factor for not undergoing the cytopathological test was

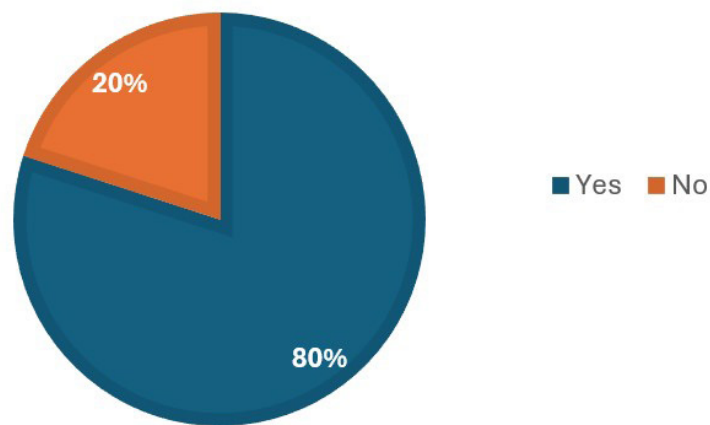
embarrassment (29%), reinforcing the importance of a tailored approach by the nursing team to reduce discomfort and strengthen the bond between patient and healthcare professional.

The operating hours of the Family Health Program (FHP) (28%) stood out, demonstrating that the incompatibility between service hours and

patients' daily activities directly influences access to the test. The distance from the health facility (10%) suggests that the problem of physical access is less significant compared to organizational and cultural factors.

Figure 4: Graph illustrating the percentage of survey participants who demonstrated knowledge of the purpose of the Cytopathological Test, Guaíçara-SP, 2025.

PERCENTAGE OF STUDY PARTICIPANTS WHO DEMONSTRATED KNOWLEDGE OF THE PURPOSE OF THE CYTOPATHOLOGICAL TEST.



Source: Prepared by the authors, 2025.

It can be observed that 80% of the patients treated by the Dom Bosco Family Health Program (ESF) are aware of the purpose of the test and state that “it is for disease prevention”; even if in simple terms, several of the patients have a basic understanding of the test’s purpose.

Analysis of the data obtained through quantitative research reveals significant adherence to cytopathological testing among the patient population. Despite the notable influence of DSS, utilization of the ESF was high, reflecting significant adherence to cytopathological testing (73%) at the facility.

However, the frequency of testing is not fully aligned with ministerial guidelines, as 22% of patients reported an interval of three to more than five years without undergoing the test.

DISCUSSION

Cervical cancer remains a significant concern in women’s health, primarily due to low adherence to prevention and control strategies, which is reflected in health indicators.

Ranking third among the most common types of cancer in the served population, cervical cancer’s primary preventive measure is screening via cytopathological examination of the cervix ⁽⁴⁾. Thus, it is essential to understand the factors leading to women’s reluctance to undergo this examination.

A study that analyzed women aged 40 to 65 revealed that 43% expressed shame regarding the exam, 17% reported fear, 7% feared the diagnosis, while 33% cited other reasons. These negative feelings hinder adherence

to preventive measures and result in gaps in care ⁽⁵⁾. Research highlights that shame arises from bodily exposure and social judgment, while fear is related to previous experiences and the dread of feeling pain, in addition to anxiety while waiting for results ⁽⁶⁾. This situation highlights the lack of information regarding the importance of the exam for the early diagnosis of cervical cancer and for appropriate follow-up.

In terms of education, studies show that women with lower educational attainment have lower screening rates, which may be associated with their socioeconomic class (A, B, C, D, and E). Those with higher education tend to have higher adherence. Women with fewer years of schooling face difficulties in understanding the importance of health and preventive

measures ⁽⁷⁾. These women are also more exposed to risk factors due to a lack of guidance on the prevention of sexually transmitted infections (STIs), such as HPV, which is a determining factor in the development of cervical lesions. Health education is crucial to meeting the needs of this population.

A survey revealed that 49% of the 100 women interviewed earned less than one minimum wage, 35% earned one minimum wage, and 14% earned between one and two minimum wages, with only 2% earning more than three minimum wages ⁽⁸⁾. These data corroborate the studies in ⁽⁹⁾ that highlight the importance of understanding the sociodemographic profile of these women, who belong to a vulnerable group with difficulties accessing health services and information on prevention.

A quantitative and qualitative study involving 40 women showed that 52.5% understood that the purpose of the test was to screen for cervical cancer ⁽¹⁰⁾. In contrast, other studies indicate that many women do not recognize the importance of the cytopathological test ⁽¹¹⁾. Many seek healthcare only when they experience gynecological symptoms, such as discharge or pain, ignoring the importance of prevention, which results in delayed diagnoses and more complex treatments ⁽¹²⁾.

In primary care, nurses play a crucial role in health promotion and prevention. Professional Practice Law No. 7,498, of 1986, establishes that the nurse must supervise, organize, and evaluate health services. Health education is an essential activity, and Family Health Strategy teams must work to overcome barriers to preventive screening, emphasizing its importance for the early diagnosis of cervical cancer.

The nurse, as a health mediator, plays a fundamental role in providing guidance on preventive screening and

its importance. Research emphasizes that educational initiatives should raise awareness about risk factors and the need for periodic screening ⁽¹³⁾. According to COFEN Resolution No. 385/2011, specimen collection for screening must be performed exclusively by nurses, given the significance of cancer in public health.

One study highlights the importance of the nurse's holistic approach, which should prioritize humanization in care, taking into account the limitations of the patients. During specimen collection, the nurse must ensure ethical standards and privacy, creating a comfortable environment ⁽⁸⁾.

Nursing care involves five stages, from data collection to the performance of the exam ⁽¹⁴⁾. In addition to cancer screening, nurses can identify signs of STIs during the physical exam. It is crucial that nursing professionals monitor women's care pathways, guiding them on the next steps after sample collection and actively following up with those who did not attend ⁽¹⁵⁾.

Furthermore, nurses must be prepared to interpret results and collaborate with the multidisciplinary team to provide comprehensive and compassionate care ⁽¹⁶⁾.

CONCLUSION

Given the current Brazilian scenario regarding the incidence of cervical cancer, it is observed that, despite the prevention and control policies implemented, the numbers remain high, causing great concern among health organizations.

The main factors contributing to low screening adherence include cultural aspects such as feelings of shame and fear, socioeconomic factors linked to low income and education levels, and demographic issues involving difficulty accessing health services. Furthermore, women's understanding

of the purpose of the screening and its importance in preventing cervical cancer remains inadequate, which compromises early diagnosis and appropriate treatment of the disease.

Nurses play a crucial role as mediators in health initiatives and strategies for the prevention and control of cervical cancer, as they are the professionals closest to the community and must recognize the local epidemiological profile, in addition to understanding the realities and difficulties faced by women. Health education is the primary strategy for promoting health and preventing disease, and it is the nurse's responsibility, as the coordinator of care, to disseminate information through educational initiatives.

Upon completion of this study, it is evident that the team implementing the Dom Bosco Family Health Strategy in the municipality of Guaiçara, São Paulo, has been effective. The study found that, although a large portion of the population met more than one of the indicators of Social Determinants of Health—suggesting vulnerability among the served population—women have a high rate of adherence to cytopathological testing, which came as a pleasant surprise to the researchers of this study. To optimize the screening program at the Dom Bosco Family Health Strategy (ESF), future interventions should focus not only on expanding the scope of care and access but, above all, on making service hours more flexible and improving communication and reception strategies to mitigate barriers related to shame.

We suggest implementing extended weekly or alternative hours and investing in the implementation of reception protocols and training for the unit's nurse to practice active listening, thereby addressing issues of modesty and embarrassment and ensuring that the frequency of the exam aligns with public health recommendations.

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