Original Research Article

CERVICAL CANCER SCREENING IN THE METROPOLITAN REGION I, STATE OF PARÁ, AMAZON

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ABSTRACT

Objective: To analyze the coverage of cytopathological examination of the cervix in women between 25 and 64 years of age in Metropolitan Region I, State of Pará, from 2017 to 2021. **Methodology:** Secondary and public data, registered in the System, were extracted. of Cancer Information, considering the historical series from 2017 to 2021. **RESULTS:** A total of 150,424 uterine cervix exams were performed by women aged between 25 and 64 years. There was a variation in the offer of exams in the municipalities, with an increase in the years 2017, 2018 and 2019, while in the years 2020 and 2021, the numbers were reduced, without reaching the state goal agreed in most municipalities. Among the cytological changes in the exam, atypical ones in glandular cells predominated with 52.4%, followed by invasive squamous cell carcinoma with 31.1%. As for the type of intraepithelial lesion, a higher proportion of low-grade lesions was identified, with 82.5%. **CONCLUSION:** Weaknesses in CC screening may be correlated with low supply and demand for the test, as well as the unsatisfactory quality of the collected samples.

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Keywords: Uterine cervical neoplasms; Screening; Women's health services; Latin America; Secondary data analysis

1. INTRODUCTION

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Cervical cancer (cervical cancer) is a public health problem that mainly affects developing countries. The disease is caused by some types of the Human Papilloma Virus (HPV), and in Brazil it is the third tumor that most affects the female population, with an estimated 16,590 new cases for each year of the triennium from 2020 to 2022, with an estimated risk of 15.43/100 thousand women; the North region has the highest incidence in the country (23.97/100,000), where women in greater social vulnerability have greater difficulty in accessing health services (1).

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Screening programs aim to detect and treat cervical cancer before it progresses to malignant neoplasms, however, CC screening depends on the Health Determinants and Conditioning Factors (DCS), and the process of seeking health services performed by individuals who have some health need permeates several socioeconomic and cultural inequalities that hinder access to screening for the disease (2).

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Screening for cervical cancer and its precursor lesions should be performed by cytopathological examination, and the recommended age for starting collection should be 25 years of age, in women who have already started sexual activity. The routine recommended

in Brazilian screening, as well as in developed countries, is the repetition of the Pap smear every three years, after two consecutive normal exams at an interval of one year (3).

Several indicators are used in organized screening programs in order to monitor and evaluate the performance of actions, among them, the indicator ratio of cytopathological tests in women in the target population is an important parameter to analyze the supply of tests in a given period and region, the estimated target for the indicator in the State of Pará in the years 2017 and 2018 was a ratio of 0.3 tests in each year, and in the period from 2019 to 2021, the ratio of 0.4 exams in each year was considered (4).

In this context, the present study aimed to analyze the coverage of cervical cytopathological examination in women between 25 and 64 years of age in Metropolitan Region I, Pará State, from 2017 to 2021.

2. MATERIAL AND METHODS

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This is a quantitative, retrospective, descriptive-exploratory study. Secondary and public domain data were extracted, recorded in the Cancer Information System (SISCAN), available at the electronic address of the Department of the Unified Health System (DATASUS), https://datasus.saude.gov.br/informacoes-de-saude-tabnet/. The study population consisted of the total number of women who underwent cervical cytopathology in the public health network of the municipalities, considering the historical series from 2017 to 2021.

The study was carried out in Metropolitan Region I, Pará State, Amazonia, Brazil. This region is the most populous and urbanized, consisting of 5 municipalities, including the state capital. According to the Brazilian Institute of Geography and Statistics (IBGE), 2,269,233 people live in this region, corresponding to 26% of the total population (5-6).

For data collection, the following variables were used: cellular alterations at examination and type of lesion. After data collection, the information was tabulated and presented in tables by absolute and relative frequency of data. Subsequently, a descriptive analysis of these data was carried out, where only women in the age group of 25 to 64 years were included, in order to calculate the indicator ratio of cytopathological tests of the cervix.

This indicator is measured by the sum of the frequency of the number of cervical cytopathological examinations (procedures 02.03.01.001-9 Cervicovaginal cytopathological examination/microflora and 02.03.01.008-6 Cervic vaginal cytopathological examination/microflora-screening) performed in women aged 25 to 64 years, by municipality of residence and year of care, divided by one third of the female population in the age group of 25 to 64 years, in the same place and year (7).

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In this analysis, all information contained in the DATASUS database, such as blank and ignored, was excluded. The study complied with the ethical precepts of research involving human beings, not using any type of identification of the population. Based on Resolution No. 510 of the National Health Council, which regulates studies with access data and public domain, the study did not require registration and evaluation by the Research Ethics Committee/National Research Ethics Commission (CEP/CONEP) system (8).

3. RESULTS

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A total of 150,424 uterine cyto exams were performed by women aged 25 to 64 years in the Metropolitan Integration Region from 2017 to 2021. In the municipalities analyzed, Belém stood out, with 31,493 exams performed in 2017, Ananindeua with 3,861 exams performed in 2019 and Marituba, with a total of 2,444 exams in 2019. In the total number of tests performed by municipality, it was possible to observe that there was a variation in the supply of tests according to the year of study (Figure 1 and Figure 2).

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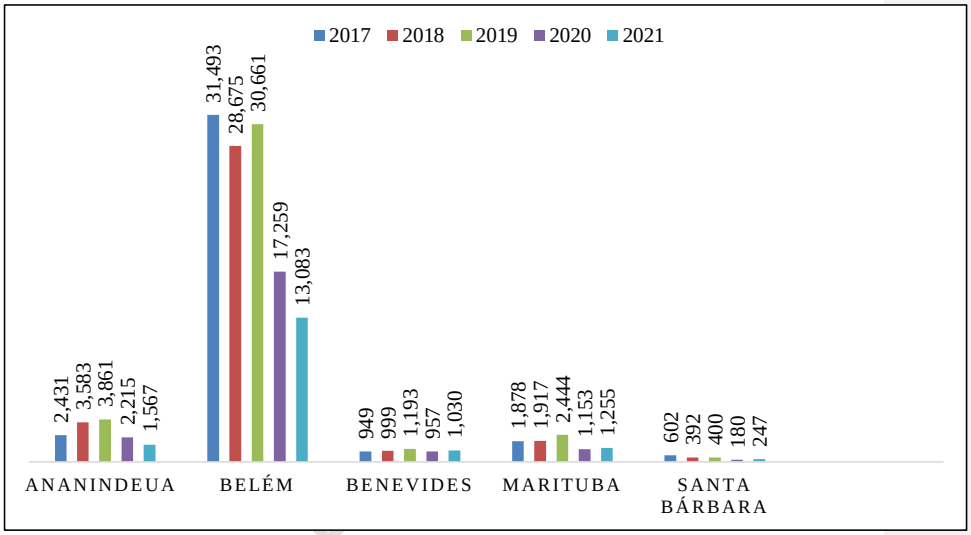

Figure 1- Total number of cervical cyte exams performed by women aged 25 to 64 years by municipality in Metropolitan Region I, Pará, Brazil, 2017 to 2021.
Source: Cancer Information System (SISCAN).

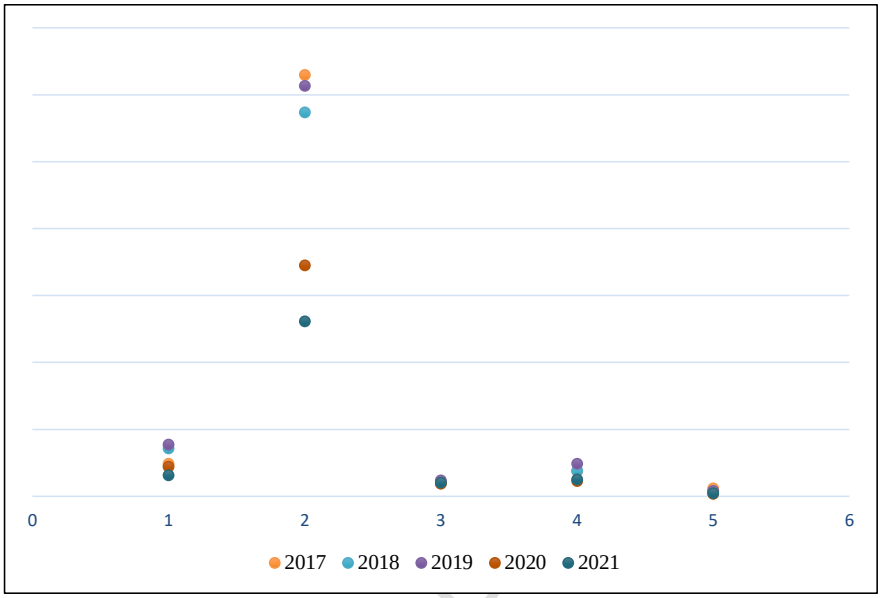

Figure 2- Linear dispersion of the total number of cervical cyte exams performed by women aged 25 to 64 years by municipality in Metropolitan Region I, Pará, Brazil, 2017 to 2021.

Source: Cancer Information System (SISCAN).

Regarding the ratio of cytopathological examinations of the cervix, there was a variation in the municipalities, but without reaching the state goal agreed upon in most of them. In 2017 and 2018, the goal was 0.40 and was reached only in the municipality of Santa Bárbara. In the years 2019 to 2021, there was a reduction to 0.30 and it was not reached in any municipality (Table 1).

Table 1 - Ratio of uterine cytoculx examinations performed by women aged 25 to 64 years in the Metropolitan Region, Pará State, Brazil, 2017 to 2021.

Year	Municipalities				
	Ananindeua	Belém	Benevides	Marituba	Santa Bárbara
2017	0,05	0,23	0,20	0,18	0,40
2018	0,08	0,21	0,21	0,18	0,26
2019	0,08	0,23	0,25	0,24	0,26
2020	0,05	0,13	0,20	0,11	0,12
2021	0,03	0,10	0,22	0,12	0,16

Source: Cancer Information System (SISCAN).

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On the other hand, in the cytological alterations on examination of the cervix, a predominance of atypical alterations in glandular cells was observed, with 52.4%, followed by invasive squamous cell carcinoma with 31.1%. On the other hand, in the type of intraepithelial lesion, a higher proportion of low-grade lesions was identified (82.5%) (Table 2).

Table 2- Proportion of cytological abnormalities in cervical cytopathological tests in the Metropolitan Region, Pará State, Brazil, 2017 to 2021.

Cell alterations on cytopathological examination	*N*	*f*%
Invasive squamous cell carcinoma	288	31,1
Atypical in glandular cells	485	52,4
Adenocarcinoma in situ	111	12
Invasive adenocarcinoma	42	4,5
Type of Injury		
High-grade intraepithelial lesion	942	17,5
Low-grade intraepithelial lesion	4.463	82,5

Source: Cancer Information System (SISCAN).

**f*% = percentage

4. DISCUSSION

Although CC is one of the only cancers that already has the vaccine as a preventive means, studies in the scientific literature prove that HPV infection, considered the main predisposing factor for cervical cancer, not only justifies cervical carcinogenesis, since it is also associated with risk factors such as early onset of sexual activity, multiplicity of sexual partners, multiparity, prolonged use of oral contraceptives, smoking, nutritional deficiency and immune status (9).

As it is an obstacle that the health sector in developing countries suffers, it is important to understand that there are a number of factors that limit and facilitate access to public health services in Brazil, in this sense, the control of CC is dependent on management actions and health professionals, being organized according to the hierarchical levels of the Unified Health System (SUS) and guided by a line of care that guides the care flows, of a primary, secondary and tertiary nature in view of the degrees of evolution of the disease(10).

In other studies with the target population of women aged 25 to 64 years, Pap smear coverage in Brazil was lower than recommended, and the number of women diagnosed among those screened was lower than the estimated values (11). According to the World Health Organization, the elimination of cervical cancer by the year 2030 has the goal of 90% of girls up to 15 years of age being vaccinated against HPV, 70% of women between 35 and 45 years of age being screened with a high-performance test, and 90% of those identified with cervical diseases being treated (12).

With regard to the municipalities, the reduction in the coverage of exams in most of them corroborates previous studies in the North and Northeast regions of Brazil, where regional disparities have a negative impact on Pap smears and cervical cancer mortality rates (13). In

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South American countries, cervical cancer screening has obstacles as a result of fragmented systems and segmentation in the provision of services. In this context, it is essential to establish comprehensive and organized programs, in addition to incorporating active search practices for performing Pap smears in primary health care. National policymaking in the intersectional context is essential to combat inequities in disease control (14).

In Brazil, the target of 85% was established for the coverage of the cytological test in the target population by the year 2022, the low cytological coverage evidenced a great fragility of the CC screening program within the municipal health network. This mishap is related to the punctual unavailability of supplies to perform the test, which is reproduced in numerous municipalities in the country, characterized by the low numbers of CC screening in the regions (15).

The significant reduction in the ratio of Pap smear screening tests in some years of the study, compared to the period before COVID-19, can be justified by the social isolation of the population, as well as the underreporting of cases and the concentration of health services to combat the coronavirus. This reduction may result in an increase in the number of cases diagnosed at an advanced stage of the disease (16).

In a study carried out in 17 countries of the European Union, in the years referred to the period 2004 and 2014, great variability was found in the percentage of coverage of preventive examination for CC, and no program reached the target of 85% defined by the European guidelines. Sweden, the United Kingdom, and Norway had the highest coverage, close to 80%, while Slovakia and Italy had the lowest, with values around 20% and 40%, respectively (17).

Thus, it is also plausible that not performing the cytology test is associated with individual issues, such as fear of the test or of the possible diagnosis, anxiety, shame, low schooling, as well as some categories of race/skin color. Considering that human beings are influenced by determinants and conditions that affect their health and well-being, this situation harms the detriment of the reach of other women who could benefit from access to CC screening (18).

5. CONCLUSION

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The present study analyzed the coverage of cervical cytopathological examination in women in the priority age group, thus identifying the numerous weaknesses in CC screening in Metropolitan Region I, which may be correlated with low supply and demand for the test, as well as the unsatisfactory quality of the samples collected. The limitations of this study were due to the underreporting in the years of the COVID-19 pandemic, thus demonstrating the need for further updating studies on the subject.

ETHICAL APPROVAL

It is not applicable**.**

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