

# KNOWLEDGE AND ADHERENCE TO PREVENTIVE CERVICAL CANCER EXAMINATION AMONG WOMEN IN THE MUNICIPALITY OF ANANINDEUA – PA, BRAZIL

## Abstract

**Objective:** This study aims to investigate knowledge and adherence to the **preventive examination for Cervical Cancer** among women living in the city of Ananindeua – PA, as well as knowing the sociodemographic profile of the participants; identify women's knowledge about **the preventive examination for Cervical Cancer**, demonstrate the level of adherence to the **preventive examination for Cervical Cancer** among participants.

**Methodology:** This is a cross-sectional, analytical-observational study with a quantitative and qualitative approach linked to the CAP – Knowledge, Attitudes and Practices survey. The study was carried out in **Place of Bible**, located in Ananindeua. In this context, the study population was made up of all women who were at the research site and the sample was restricted to those who met the inclusion and exclusion criteria. Data were collected using a form, which was read to the participants and filled out by the researchers at the time of the interview. This form was divided into two parts. The first part contains 5 questions that verified the sociodemographic characteristics of the participants (place of residence, age, education, marital status, and number of children). The second part consisted of 12 questions relating to knowledge and adherence to the **preventive examination for Cervical Cancer**. The results of this study reflect the responses of 100 women living in the Municipality of Ananindeua – PA. **Results:** The characteristics of these participants demonstrate that the majority were women aged 18 to 29 years (n = 43); they are single (n = 59) and have children (n = 63). Furthermore, it was possible to notice that many participants (n = 49) only use the public health service and the highest level of education among the participants is high school (n = 31). The results also showed that among the 100 interviewees, 92% stated that they had already heard about **preventive examination for Cervical Cancer** (Q1). In terms of **preventive examination for Cervical Cancer** practice, 91% of women said they had taken the exam at least once (Q7), while 9% said they had not. **Conclusion:** Therefore, this study provides a solid basis for the implementation of targeted interventions, with the aim of improving understanding, access and adherence to the preventive examination for

Cervical Cancer, with a potential positive impact on the health of women served by the local health system.

**Keywords:** Pap smear. Women's health. Knowledge. Accession. Nursing.

## INTRODUCTION

Cervical cancer (CC) is one of the diseases with the highest mortality rate worldwide <sup>(1)</sup>. In Brazil, estimates by the National Cancer Institute <sup>(2)</sup> for the three-year period 2020 to 2022 show that 16,590 cases of cervical cancer will occur, with an estimated risk of 15.43 cases per 100,000 women for each year of the same three-year period. In terms of morbidity, this cancer is the second most common in the north (21.20/100,000) and northeast (17.62/100,000) regions of Brazil, regions with the highest levels of social inequality in the country <sup>(3)</sup>.

This reality generates the need for investments in health promotion and cancer prevention, through adherence to the Human Papilloma Virus (HPV) vaccine, as well as investment in adequate screening for early diagnosis with greater chances of cure <sup>(4)</sup>.

HPV (human papillomavirus) is a sexually transmitted disease that affects millions of people worldwide. According to recent studies, the age group with the highest incidence of HPV is between 15 and 28 years old and with incomplete higher education <sup>(5,6)</sup>.

In this regard, Moudatsou et al <sup>(7)</sup> (2022), clarify that CC prevention is a multifactorial process defined by individual, social and cultural parameters, in addition, differences in adherence and knowledge may be related to subjective factors such as beliefs about how to perform the Pap smear. The mechanisms by which social interactions impact on health are through the dissemination of information, as well as practical and emotional support <sup>(8)</sup>.

In this context, the preventive cervical cancer test plays a fundamental role in early diagnosis and the fight against this disease. Also known as the "Pap smear", this test consists of collecting cells from the cervix, which are analyzed in the laboratory in search of possible alterations that indicate the presence of precancerous lesions or cancer itself <sup>(9)</sup>.

of **preventive examination for Cervical Cancer** can identify lesions in the early stages, when they don't yet cause noticeable symptoms. In this way, early intervention is

possible, significantly increasing the chances of a cure. It also allows regular monitoring of the health of the cervix, making it possible to treat precancerous lesions before they become malignant <sup>(3)</sup>.

It's worth noting that the technique used to carry out the test is relatively simple and painless. The health professional uses a speculum to visualize and access the cervix, where they collect cells with a spatula or brush. These cells are then sent to the laboratory for analysis. The whole procedure is quick and generally doesn't cause the patient any significant discomfort <sup>(4)</sup>.

However, it is worrying to note that there is still a great deal of ignorance and prejudice about the test. Many women, due to a lack of information or fear, end up neglecting their health and failing to have a regular cervical smear. This scenario is aggravated by the myths and taboos surrounding the test, such as the fear of pain or the mistaken belief that only sexually active women should undergo it <sup>(10)</sup>.

For all the above reasons, this study raises the following problem question: What is the knowledge and adherence of women living in the municipality of Ananindeua/PA about **the preventive examination for Cervical Cancer**? In order to answer this question, this study aims to investigate the knowledge of and adherence to the **preventive examination for Cervical Cancer** among women living in the municipality of Ananindeua - PA, as well as to find out the sociodemographic profile of the participants and relate it to knowledge of and adherence to **preventive examination for Cervical Cancer**.

It is therefore essential to raise awareness among the population about the importance of having a cervical cancer screening test. It is essential to disseminate clear and precise information about the disease and the test, demystifying unfounded beliefs. It is also necessary to promote easy access to the test, ensuring that all women have the opportunity to take preventive care of their health <sup>(6)</sup>.

Finally, this study is justified by the need to examine the level of knowledge and its relationship with adherence to the of **preventive examination for Cervical Cancer** among women living in the municipality of Ananindeua - Pa. In order to establish health education measures on cervical cancer, its risks and prevention strategies.

## **METHODOGY**

### **Type of study**

This is a cross-sectional, analytical-observational study with a quantitative and

qualitative approach linked to the CAP-Knowledge, Attitudes and Practices survey, which will be carried out through the application of questionnaires.

### **Place of data collection, study population and sample**

The study was carried out in **Place of Bible**, located in Ananindeua. In this context, the study population was made up of all the women who were at the research site and the sample was restricted to those who met the inclusion and exclusion criteria.

### **Criteria for inclusion and exclusion**

Within the established population, women aged 18 or over and living in the municipality of Ananindeua were selected as the sample. Those with any limitation that made it impossible to conduct the interview were excluded.

### **Data collection instrument**

The data was collected using a form, which was read out to the participants and filled in by the researchers at the time of the interview. The form was divided into two parts. The first part contained 5 questions which checked the participants' sociodemographic characteristics (place of residence, age, education, marital status and number of children). The second part was made up of 12 questions relating to knowledge of and adherence to the **preventive examination for Cervical Cancer**. In the second part, the questions were structured according to the odd-numbered Likert scale, using three possible answers (yes, maybe and no). The answers "yes" and "no" always equate, respectively, to a positive and negative attitude towards the point being addressed. "Maybe" represents uncertainty or not knowing the answer to the question.

### **Organization and analysis of data**

The data collected was transported and organized in Microsoft Office 365 Excel spreadsheets for descriptive and inductive analysis of the results. The descriptive analyses were based on the absolute and relative frequencies of the results. For the second and third follow-up questions, the inductive statistical analyses will be carried out using the BioEstat 5.0 program. The ANOVA, One-Way test with Turkey or Kruskal-Wallis (5% significance level) will be applied to check for significant differences between the answers "yes" (positive attitude), "no" (negative attitude) and

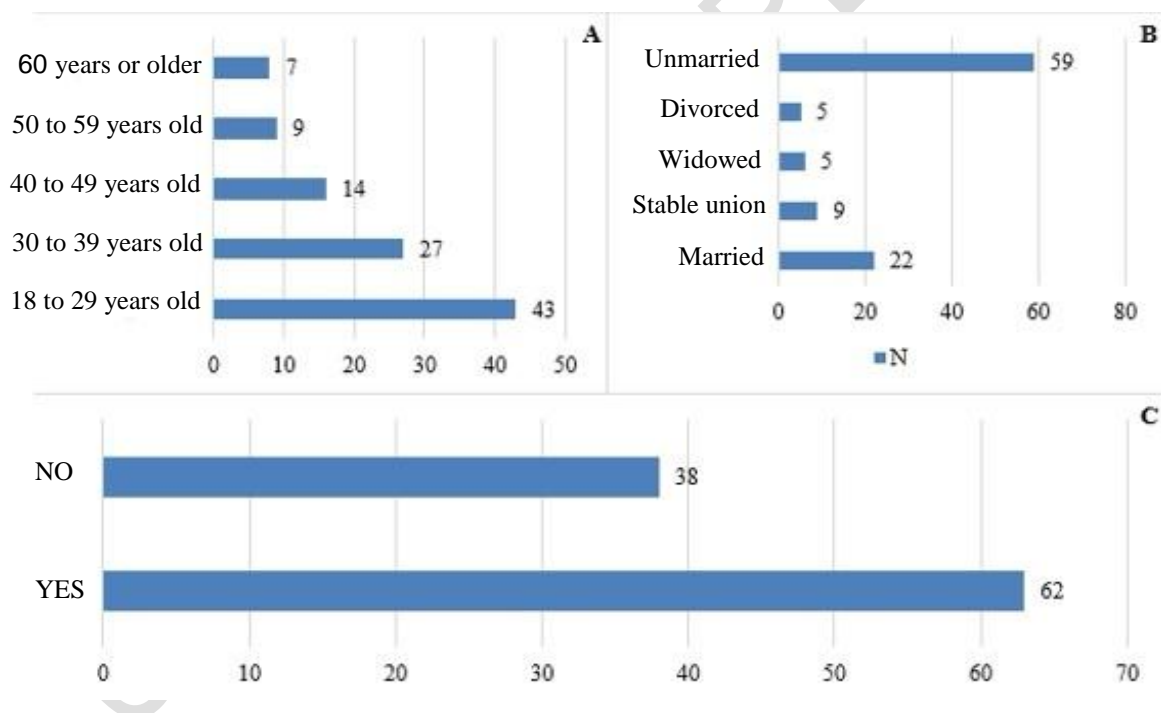
“maybe”.

The data was then analyzed and interpreted, and tables and graphs were drawn up to aid and objectify the research analysis and present the research results. Studies indexed in the Virtual Health Library (VHL) and Publications of Medical Literature Analysis and Retrieval System Online (PUBMED) will be used.

## RESULTS

The results of this study reflect the responses of 100 women living in the municipality of Ananindeua - PA. The characteristics of these participants show that the majority were women aged between 18 and 29 (n = 43), **unmarried** (n = 59) and with children (**n = 62**).

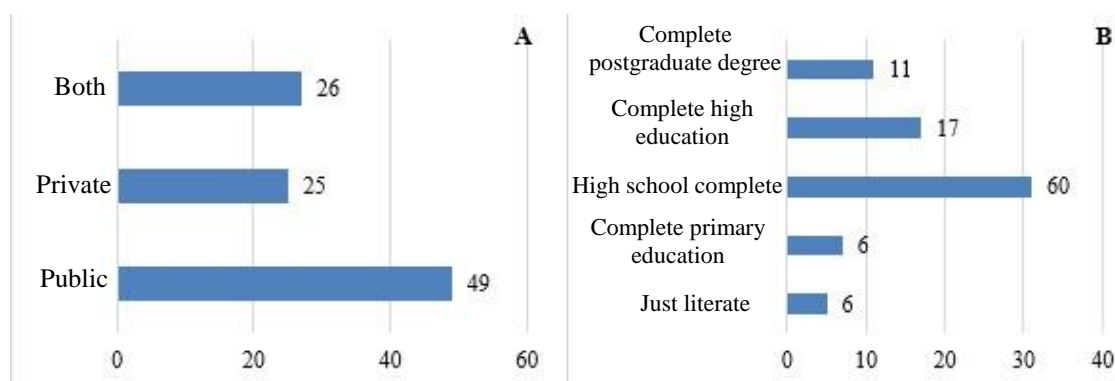
Figure 1- Sociodemographic profile of the research participants, according to age group (A); marital status (B) and children (C)



Source: Survey data, 2023

It was also possible to see that the majority of the participants (n = 49) only use the public health service and that the highest level of education among the participants is secondary school (n = 60).

Figure 2- Socio-demographic profile of the study participants, according to type of access to healthcare (A) and schooling (B)



Source: Survey data, 2023

The results also showed that among the 100 women interviewed, 92% said that they had heard of **preventive examination for Cervical Cancer** (Q1). On the other hand, 5% said they were not aware of it and 3% were not sure. With regard to understanding the purpose of **preventive examination for Cervical Cancer** (Q2), 81% of the interviewees understood its purpose, while 7% did not and 12% were uncertain.

When asked about the recommended periodicity for performing the **preventive examination for Cervical Cancer** (Q3), the response was the same as the previous one, with 81% of the interviewees aware of the recommended frequency, 7% not aware and 12% uncertain.

With regard to the safety and pain of **the preventive examination for Cervical Cancer** (Q4), 88% of the participants believe that the test is safe and painless, while 12% do not. Regarding knowledge of the methods used in the **preventive examination for Cervical Cancer** (Q5), 80% of the women were aware, 7% were not, and 13% were uncertain. When asked where the **preventive examination for Cervical Cancer** can be carried out (Q6), 94% of the women knew, while 6% did not.

In terms of practicing of **preventive examination for Cervical Cancer**, 91% of women said they had been tested at least once (Q7), while 9% said they had not. Regarding regular scheduling and attendance at **preventive examination for Cervical Cancer** appointments (Q8), 63% of the women said they did this regularly, while 23% said they didn't and 14% were uncertain. When asked about the existence of barriers that make it difficult to have a cervical cancer screening (Q9), 72% of the women said no, 17% said yes and 11% were unsure.

Regarding the discomfort of performing the **preventive examination for Cervical Cancer** with a male professional (Q10), 54% of the women said they might feel uncomfortable, 17% said yes and 29% said no. With regard to a negative or unpleasant experience when performing **preventive examination for Cervical Cancer** (Q11), 50% of the women said no, 26% said yes and 24% were uncertain. Finally, when asked if they encourage other women to have regular cervical cancer screening (Q12), 75% of the women said yes and 25% were uncertain and, for this question, none of the interviewees said no (Table 1).

Table 1- Knowledge and practice of women in the municipality of Ananindeua about the PCCU test

QUESTION	KNOWLEDGE OF THE <b>PREVENTIVE EXAMINATION FOR CERVICAL CANCER</b> (N= 100)	YES	NO	MAYBE
Q1	Have you heard about <b>preventive examination for cervical cancer</b> ?	92	5	3
Q2	Do you know the purpose of the <b>preventive examination for cervical cancer</b> ?	81	7	12
Q3	Do you know the recommended periodicity for performing the <b>preventive examination for cervical cancer</b> ?	81	7	12
Q4	Do you believe that the <b>preventive examination for cervical cancer</b> is a safe and painless test?	88	12	0
Q5	Do you know what methods are used in the <b>preventive examination for cervical cancer</b> ?	80	7	13
Q6	Do you know where the <b>preventive examination for cervical cancer</b> can be carried out?	94	6	0
QUESTION	<b>PRACTICE OF PREVENTIVE EXAMINATION FOR CERVICAL CANCER</b> (N= 100)	YES	NO	MAYBE
Q7	Have you ever undergone the <b>preventive examination for cervical cancer</b> ?	91	9	0
Q8	Do you regularly schedule and attend appointments to have your cervical cancer screening?	63	23	14
Q9	Do you face any barriers that make it difficult to carry out the <b>preventive examination for cervical cancer</b> ?	17	72	11
Q10	Do you find it uncomfortable to have your cervical cancer screening done by a male professional?	17	29	54
Q11	Have you ever had a negative or unpleasant experience while undergoing the <b>preventive examination for cervical cancer</b> ?	26	50	24
Q12	Do you encourage other women around you to have regular cervical smears?	75	0	25

Source: Survey data, 2023

In order to better assess the knowledge and practice of the **preventive examination for cervical cancer** within this sample, an analysis of variance was carried out using the Kruskal-Wallis test, in order to check for significant differences between the subgroups of the variables analyzed (age group, marital status, children, schooling and type of access to health care), among which it was possible to see a variation of less

than 0.005 in knowledge between the subgroups of age group and schooling, with no significant variation between the answers on practices to **preventive examination for cervical cancer** (Table 2).

Table 2- Analysis of variance between the groups of the variables analyzed.

<b>KNOWLEDGE OF PREVENTIVE EXAMINATION FOR CERVICAL CANCER (N=100)</b>		
<b>AGE GROUP</b>	Affirmative answers	Value -p
18 to 29 years old	219	0.002
30 to 39 years old	144	
40 to 49 years old	123	
50 to 59 years old	108	
60 years and older	86	
<b>TYPE OF ACCESS TO HEALTH</b>	Affirmative answers	0.08
Public	108	
Private	102	
both	92	
<b>EDUCATION</b>	Affirmative answers	0.004
Only literate	8	
Complete primary education	189	
Complete secondary education	215	
Complete higher education	156	
Postgraduate degree completed	78	
<b>CIVIL STATUS</b>	Affirmative answers	0.6
Married	256	
Stable union	238	
Widowed	20	
Divorced	28	
Unmarried	260	

Source: Survey data, 2023

According to the results, the 18 to 29 age group had the highest number of affirmative answers regarding knowledge of the **preventive examination for cervical cancer**, with a significant p-value ( $p=0.002$ ). This result can be attributed to greater awareness and access to information by this age group, possibly due to awareness campaigns aimed at a younger audience. In addition, it is important to consider that younger people may be more engaged in seeking information about disease prevention, including cervical cancer.

With regard to the type of access to healthcare, the group that answered yes about knowledge of **preventive examination for cervical cancer** was relatively balanced between those who use the public system, the private system or both. The p-value

( $p=0.08$ ) suggests that there was no statistically significant difference between the groups. This may indicate that, regardless of the type of access to healthcare, information about the **preventive examination for cervical cancer** is being disseminated widely, reaching both users of the public and private systems.

With regard to schooling, the results showed that people who had completed secondary school (CSE) were the ones who gave the most affirmative answers about their knowledge of the **preventive examination for cervical cancer**, followed by those who had completed higher education (CHE). On the other hand, those who were only literate or had completed elementary school (CEE) had significantly fewer affirmative answers. The p-value ( $p=0.004$ ) suggests a statistically significant association between schooling and knowledge of **preventive examination for cervical cancer**. This may indicate that higher levels of schooling are associated with greater awareness of the importance of the Pap smear in preventing cervical cancer.

Finally, with regard to marital status, the results revealed that married people and those in a stable union were the ones who responded most affirmatively about their knowledge **of the Pap smear exam**, with associated p-values of 0.6. This result may reflect the influence of social and family support on awareness of health-related issues, including the importance of **Pap smear exam**. On the other hand, widowers and divorcees had fewer affirmative responses, indicating the need for specific strategies to reach these groups, perhaps through targeted programs or awareness campaigns adapted to their needs and realities.

## **DISCUSSION**

The results presented indicate a clear understanding and knowledge of Cervical Cancer Prevention among the women interviewed. The majority (92% - Q1) had already heard of the test, indicating that awareness campaigns and health education have been effective in conveying basic information about this important preventive test. In this sense, the study by Silva et al. <sup>(11)</sup> also indicates that there is good knowledge of **Pap smear exam** among women.

With regard to understanding the purpose of Pap smear exam, 81% of the women interviewed said they understood its purpose, while 7% did not and 12% were uncertain. This result can be attributed to various factors, including the lack of adequate

information about the importance of the test and the need for more targeted educational campaigns. A study carried out by Lima et al. <sup>(12)</sup> pointed out that a lack of understanding about the purpose of the **Pap smear exam** may be associated with lower levels of schooling and less access to health information.

Furthermore, when asked about the recommended frequency for performing cervical cancer screening, the answers followed a similar pattern, with 81% of the interviewees aware of the recommended frequency, 7% not aware and 12% uncertain. This lack of clarity regarding frequency may be related to gaps in communication between health professionals and patients, as well as challenges in implementing effective screening programs. A study published by Martins and Motta <sup>(13)</sup> highlighted the importance of individualized counseling and ongoing education to ensure that women fully understand the screening guidelines for cervical cancer.

The results also indicated that the vast majority of women (88%) believe that the Pap smear exam is a safe and painless test, which is crucial for promoting adherence to the preventive exam. This positive perception is in line with the findings of a study conducted by Silva et al. <sup>(14)</sup>, which highlighted the importance of patients' trust and comfort in relation to cancer screening procedures.

With regard to the methods used in the Pap smear exam, 80% of the women were aware, 7% were not, and 13% were uncertain. This lack of knowledge about the methods may point to the need for improvements in communication between health professionals and patients, as well as the importance of educational campaigns that clearly and accessibly address the procedures involved in the **preventive examination for cervical cancer**. Strategies aimed at health education, such as information leaflets, explanatory videos and information sessions, can play a crucial role in this regard <sup>(15)</sup>.

Finally, familiarity with the places where the cervical cancer screening test can be carried out was high, with 94% of women indicating knowledge of this aspect, while 6% were unaware. This information is encouraging, as it suggests that the majority of women are aware of the accessible places where the test can be carried out, which can facilitate the search for medical assistance and adherence to cervical cancer screening <sup>(16)</sup>.

Regarding the practice of cervical cancer screening, 91% of the women interviewed said they had undergone the test at least once, while 9% reported not having done so. These results indicate that the vast majority of women are aware of the importance of the test and have already taken it, which is fundamental for the

prevention and early diagnosis of cervical cancer<sup>(17)</sup>.

However, in relation to scheduling and regular attendance at **Pap smear exam** appointments, only 63% of women said they did so regularly, while 23% said they did not and 14% were uncertain. This discrepancy can be attributed to various factors, including socio-economic barriers, lack of awareness about the importance of regular screening and even issues related to access to health services. A study conducted by Santos et al.<sup>(18)</sup> highlighted that women with lower socioeconomic status and those living in more remote areas are more likely to face challenges in scheduling and regularly attending of **Pap smear exam** appointments.

In addition, when asked about the barriers that make it difficult to have a cervical cancer screening, 72% of the women reported not encountering any difficulties, 17% said they did and 11% were uncertain. These barriers can include issues such as lack of time, concerns about the discomfort of the test and transportation difficulties, among others. A study published by Silva et al.<sup>(19)</sup> found that a lack of understanding about the importance of the test, fear of the result and a lack of family support may be factors that contribute to the barriers faced by women when undergoing the Pap smear exam.

With regard to negative or unpleasant experiences while undergoing the Pap smear exam, 50% of the women interviewed said they had not had such an experience, 26% said they had and 24% were uncertain. These results highlight the importance of ensuring a positive and comfortable experience for women during the examination. A study conducted by Saldanha et al.<sup>(20)</sup> pointed out that previous negative experiences, such as discomfort, pain or embarrassment, can have an adverse impact on women's willingness to undergo regular cervical cancer screening.

In addition, when asked if they would regularly undergo **preventive examination for cervical cancer**, 71% of the women said yes, while 25% were uncertain. The importance of regular screening cannot be underestimated, since early detection is fundamental for the successful treatment of cervical cancer. The lack of regularity in performing the preventive examination for cervical cancer may be associated with factors such as lack of information about the recommended periodicity, barriers to accessing health services and previous negative experiences, as mentioned previously<sup>(11)</sup>.

It is essential to address the barriers that prevent regular cervical cancer screening and ensure that women have access to quality health services, with

professionals trained to offer a comfortable and welcoming environment. Strategies aimed at health education, raising awareness about the importance of preventive examination for cervical cancer and promoting positive experiences during the exam are fundamental to increasing adherence and regularity in carrying out the procedure<sup>(14)</sup>.

The issue of discomfort in performing the **Pap smear exam** with a male professional was also relevant, with 54% of the women indicating that they might feel uncomfortable, 17% saying yes and 29% saying no. This perception of discomfort can have an impact on seeking preventive examinations and highlights the importance of ensuring that women have the option of choosing health professionals of the gender they feel most comfortable with. A study conducted by Lopes et al.<sup>(21)</sup> highlighted that respecting women's gender preference in relation to health professionals can positively influence adherence to **preventive examination for cervical cancer**.

The results of this study showed that the population sample in the municipality of Ananindeua had good knowledge of the **Pap smear exam**, and only the variables schooling and age group proved to be factors capable of influencing knowledge, since statistically significant variations were seen between the groups of these variables.

Similar to these results, Teixeira et al.<sup>(22)</sup> found in their study that the significant difference was observed in the 18-29 age group, which was approximately 4 times less likely (OR = 0.244, CI = 0.068-0.689, p-value = 0.014) to have inaccurate knowledge about **preventive examination for cervical cancer** compared to other age groups.

Other recent studies on PAC related to Pap smear exam have also revealed that people with higher levels of education are less likely to have inadequate knowledge on this subject<sup>(23, 24, 25)</sup>.

## **CONCLUSION**

The results obtained in this study provided valuable insights into the knowledge and practice of women living in the municipality of Ananindeua - PA in relation to the Pap smear. The representative sample of 100 women revealed significant demographic characteristics, with the majority of participants being women aged between 18 and 29, single and with children. In addition, the predominance of exclusive use of public health services and the level of education, mostly limited to high school, are relevant aspects to consider.

The results of the participants' responses in relation to their knowledge of the Pap smear exam showed that the vast majority had heard of the test and understood its purpose and recommended periodicity. However, there was a significant proportion of women who showed uncertainty or lack of understanding about certain aspects of the test, such as safety, associated pain and the methods used.

The analysis of variance carried out to investigate possible differences between demographic subgroups revealed that age group and schooling showed significant variation in relation to knowledge, while no significant differences were observed in relation to Pap smear exam practices between the subgroups.

It is important to note that the majority of the participants reported having undergone the Pao smear exam at least once, and a considerable proportion said they regularly attended appointments related to the exam. However, the existence of barriers that hinder the performance of the preventive xamination for cervical cancer, as well as the possible influence of the health professional's gender on the women's experience, are aspects that deserve special attention.

In addition, the significant number of participants who said they encouraged other women to undergo regular cervical cancer screening is encouraging and highlights the potential for educational and awareness-raising actions within the community.

Given these results, it is clear that strategies aimed at improving knowledge and practice of Pap smear exam among women living in Ananindeua - PA are important. Awareness campaigns, educational programs and actions to mitigate the barriers identified can play a crucial role in promoting health and preventing cervical cancer in this population.

Therefore, this study provides a solid basis for the implementation of targeted interventions to improve understanding, access and adherence to cervical cancer screening, with a potential positive impact on the health of women served by the local health system.

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