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Assessment of knowledge, attitude, and practice regarding human papillomavirus and cervical cancer prevention

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RESUMO

Objetivo: Avaliar o conhecimento, atitude e prática de mulheres sobre o papilomavírus humano e o exame Papanicolau. **Método:** Estudo transversal, analítico, com abordagem quantitativa, em que aplicou-se o inquérito de conhecimento, atitude e prática, segregado em perfil socioeconômico e demográfico, e análise de conhecimento, atitude e prática, associados ao papilomavírus humano e ao exame Papanicolau, que traçou o que as mulheres compreendem, cogitam e agem diante dessa temática. **Resultados:** O inquérito de conhecimento, atitude e prática recebeu 152 respostas, sendo possível caracterizar idade entre 17-39 anos (88,8%), solteiras (73%), ensino superior (97,7%) e sem filhos (77%). Na análise, foi considerado adequado conhecer o exame (98,7%), a finalidade (79,6%), quais são os cuidados (86,8%), intervalo de tempo (73,7%) e periodicidade (68,4%). **Conclusão:** Com isso, os dados apresentados contribuem para direcionar as ações e melhora da saúde sexual e reprodutiva dessas mulheres, a fim de prevenir o aumento da incidência dessa neoplasia.

Descritores: Papilomavírus Humano; Saúde da Mulher; Papanicolau; Saúde Sexual e Reprodutiva.

ABSTRACT

Objective: to assess women's knowledge, attitudes and practices regarding human papillomavirus and Pap smear. **Method**: a cross-sectional, analytical study with a quantitative approach, in which a knowledge, attitude and practice survey was applied, segregated into socioeconomic and demographic profiles, and an analysis of knowledge, attitude and practice associated with human papillomavirus and Pap smear, which outlined what women understand, consider and act on this topic. **Results**: the knowledge, attitude and practice survey received 152 responses, with ages ranging from 17 to 39 years (88.8%), single (73%), higher education (97.7%) and no children (77%). In the analysis, it was considered adequate to know the exam (98.7%), the purpose (79.6%), what care is (86.8%), time interval (73.7%) and frequency (68.4%). **Conclusion**: with this, the data presented contribute to directing the actions and improving the sexual and reproductive health of these women, in order to prevent the increase in the incidence of this neoplasm.

Descriptors: Human Papillomavirus Viruses; Women's Health; Papanicolau Test; Reproductive Health.

RESUMÉN

Objetivo: evaluar el conocimiento, actitud y práctica de las mujeres frente al virus del papiloma humano y la prueba de Papanicolaou. **Método**: estudio transversal, analítico, con enfoque cuantitativo, en el que se aplicó una encuesta de conocimientos, actitudes y prácticas, segregadas por perfil socioeconómico y demográfico, y un análisis de conocimientos, actitudes y prácticas, asociados al virus del papiloma humano y la prueba de Papanicolaou, que rastreó lo que las mujeres entienden, consideran y actúan sobre este tema. **Resultados**: la encuesta de conocimientos, actitudes y prácticas recibió 152 respuestas, lo que permitió caracterizar edades entre 17 y 39 años (88,8%), solteros (73%), estudios superiores (97,7%) y sin hijos (77%). En el análisis se consideró adecuado conocer el examen (98,7%), la finalidad (79,6%), cuáles son las precauciones (86,8%), el intervalo de tiempo (73,7%) y la frecuencia (68,4%). **Conclusión**: con esto, los datos presentados contribuyen a orientar acciones y mejorar la salud sexual y reproductiva de estas mujeres, con el fin de prevenir el aumento de la incidencia de esta neoplasia.

Descriptores: Virus del Papiloma Humano; Salud de la Mujer; Prueba de Papanicolaou; Salud Reproductiva.

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Introduction

Cervical cancer (CC) is the sixth most frequent tumor and the fourth most common in women, and is the fourth leading cause of female mortality in the country. CC is a neoplasm whose persistence of precursor lesions is closely associated with contamination by some high-risk subtypes of the human papillomavirus (HPV). The high morbidity and mortality rates show it to be a serious public health problem that exposes thousands of women to such risk[1].

Uterine cancer has a slow progression promoted by progressive intraepithelial changes that can develop into invasive carcinoma whose incidence increases progressively from the age of 50[2-3]. Cervical neoplasm is closely associated with HPV infection. Cervical intraepithelial neoplasm (CIN) is a precursor lesion that can lead to CC. Differentiated epithelial cells characterize CIN in grades I, II and III[4]. CIN II and III are the most severe, as there is a high probability of developing carcinoma in situ, i.e., a malignant neoplasm. CIN I (low-grade lesions) is normally considered benign, regressing within two years, and is what causes HPV infection[5].

According to the World Health Organization (WHO), the main cause of precancerous and cancerous lesions is infection with high-risk HPV, and there are currently approximately 640 million individuals infected with HPV. HPV is extremely contagious. Infection can occur with a single exposure, and its transmission occurs through direct exposure to infected skin or mucosa. The main mechanism of contamination is sexual intercourse, whether oral, genital, anal or manual. Thus, infection can occur even in the absence of penetration[6].

Pap smear is the most relevant screening tool. In Brazil, this test is recommended for women between 25 and 64 years of age who are sexually active. The period between tests should be three years, after two tests without significant changes. These recommendations are from the Ministry of Health, in active cooperation with the Brazilian National Cancer Institute, following the current model proposed by the WHO[3].

Tetravalent immunization against the virus is one of the current methods in the country for preventing CC, carried out since 2014 in the public health sector. The recommended schedule consists of two doses, the last being administered six months after the first. The initial target population included girls aged 9 to 14 who had not yet initiated sexual activity, however, as of 2017, boys were also included in the vaccination schedule[7].

The elements that hinder preventive actions are lack of knowledge and implications regarding the pathology and Pap smear, adherence and quality of services offered, practices to prevent sexual activities, body care, attitudes of partners, and stigmas associated with body exposure[8]. Despite prior knowledge about CC, most women have little or no information, especially regarding changes in the results of oncological cytology and genital warts[4].

Brazilian studies on knowledge of HPV have shown that the majority of the population of both sexes have little knowledge about this virus[4,9]. Some studies have shown that women's knowledge, attitudes and practices regarding cytopathological examinations showed unsatisfactory rates in all three aspects.

Despite demonstrating adequate knowledge about CC and vaccination, there was insufficient understanding about risk factors for the disease, such as early onset of sexual activity[10]. Most individuals also demonstrate little knowledge about HPV vaccines[11].

Considering the high prevalence and mortality rates in women, CC is a public health problem inherent to the social level and low purchasing power and productive phase of life. Moreover, this type of malignant tumor demonstrates a strong relationship with subsistence conditions, low human development indices, absence or vulnerability of health education programs and lack of adherence to public healthcare services for early intervention of precursor lesions[12]. Thus, the study aimed to assess women's knowledge, attitude and practice regarding HPV and Pap smear.

Methods

This is a cross-sectional, analytical study with a quantitative approach, in which the knowledge, attitude and practice (KAP) survey of women about HPV and the CC prevention exam was applied, which aimed to outline the interpretation of what the female population understands, considers and acts on a topic related to their health knowledge and beliefs. In this way, the interviewer was able to identify peculiarities that predispose KAP survey as adequate and inadequate, being able to perform care actions and analyze those that are already being repercussed[13-15].

The study sample consisted of women users of the Brazilian Healthcare system (In Portuguese, *Sistema Único de Saúde* - SUS) aged between 18 and 64 years, who had initiated their sexual life, and were treated in the municipality of Jataí, located in the Southwest region of the state of Goiás, a location referred to the Southwest II Region. To calculate the sample size of this population, a statistical power of 80% (b = 20%), a significance level of 95% (a <0.05) and a population of 28,786 women residing in the municipality of Jataí were considered[16]. The prevalence estimate for women's knowledge, attitude and practice on cytopathological examination was 35.5%[14]. Thus, the minimum sample size required was 149 women[17]. Sample selection was similar to accidental sampling, which consisted of participants who answered the questionnaire first, successively, until completing the sample size defined for the study.

Women aged between 18 and 64 years who had already initiated sexual activity were included. Women who had undergone hysterectomy due to precursor lesions or were undergoing treatment for CC because they had knowledge about the pathology and those who had some deficit that prevented them from responding to the electronic questionnaire were excluded[14].

The data collection instrument was the KAP survey containing 26 questions, separated into two stages. In the first stage, questions were generated to characterize the sample, such as age, education, marital status, number of children, profession and race. The second part was determined by questions aimed at analyzing knowledge, attitude and practice associated with HPV and Pap smear. The questionnaire was created in Google Forms® and presented online, with a link being made available to the female population through available social networks. The instrument was adapted from other studies[13-15].

The data were initially entered into a Microsoft Excel® spreadsheet, with double entry, and coded according to the analysis software. They were then transferred to the Statistical Package for the Social Sciences version 22.0. For descriptive analysis, absolute and relative frequencies were presented, and for continuous quantitative variables, categorization was used for standardization with the other variables.

After the KAP classification, the prevalence of adequacy in each domain assessed was calculated using the chi-square test. To compare proportions and assess differences in the prevalence of adequacy, the chi-square test for homogeneity was applied. To assess the sociodemographic profile factors that significantly influenced women's knowledge, attitude and practice, the chi-square test for independence was applied. In cases where the test assumptions were not met, Fisher's exact test was applied, and when the variables were ordinal, the Kruskal-Wallis test was applied.

Multivariate analysis for adequate knowledge was performed by adjusting the Poisson model with robust variance. Variables were included in the initial model together and removed individually, repeating the model estimation for each removed variable, using the highest p-value of the Wald statistic as the criterion. For insertion into the model, a significance level of less than 20% was considered in the chi-square statistic for independence, and for the permanence of the variable in the model, a value of 0.05 of the Wald statistic was considered. All conclusions were obtained considering a significance level of 5%.

The project was approved by the Research Ethics Committee. All participants were informed about the study objectives, risks and benefits, as well as the freedom to leave the study at any time.

Results

The KAP survey received 152 responses, and it was possible to characterize participant socioeconomic profile (Table 1). Based on the responses, the following profile can be stated: age between 17-39 years (88.8%), brown (44.7%), single (73%), higher education (97.7%) and no children (77%). Concerning the economic situation, half of women do not have a paid job (50%); 66 (43.4%) earn up to three minimum wages; and 84 (55.3%) are residents of the municipality of Jataí.

Table 1 - Percentage distribution of social and labor characteristics. Jataí, GO, Brazil, 2022 (n=152).

Variables	f	%	%
Number of children			
0	117	77.0	77,0
1	10	6.6	6,6
2	14	9.2	9,2
3	11	7.2	7,2

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Continuation

Variables	f	%	%
Marital status			
Single	111	73.0	73,0
Married	28	18.4	18,4
Stabel union	11	7.2	7,2
Divorced	2	1.3	1,3
Work?			
Yes	76	50.0	50,0
No	76	50.0	50,0
Skin color			
Black	17	11.2	11,2
Brown	72	47.4	47,4
White	58	38.2	38,2
Yellow	5	3.3	3,3
Age			
17-39	135	88.8	88,8
40-59	16	10.5	10,5
>=60	1	0.7	0,7
Income in minimum wage*			
< 1	5	3.3	3,3
1	38	25.0	25,0
2	43	28.3	28,3
≥ 3	66	43.4	43,4
Lives in Jataí			
Yes	84	55.3	55,3
No	68	44.7	44,7
Education			
Elementary school	2	1.3	1,3
High school	3	2.0	2,0

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Continuation

Education			
Higher education	147	96.7	96,7
17-39		135	88,8
40-59		16	10,5
>=60		1	0,7

Legend: *minimum wage value in 2020: R$ 1,100.
Source: the authors

In the analysis of participants' knowledge, attitude and practice (Table 2), it was considered adequate to know the exam (98.7%), exam purpose (79.6%), what precautions are (86.8%), time interval (73.7%) and frequency (68.4%). Moreover, 152 women (100%) indicated that it is a necessary preventive method, and when assessing when the last exam was performed, 89 women (58.6%) had it recently, returning to get the latest result at the healthcare service (65.1%).

In relation to HPV vaccination and protecting themselves against all sexually transmitted infections (STIs), 132 women (86.8%) considered that they had not done so. Regarding the vaccine and the relationship with the vaginal canal, 114 women (75%) believe that they can develop cancer even if they have been vaccinated, and 94 (61.8%) believe that vaccines are more effective in those who have not yet had sexual relations (Table 2).

As for HPV test positivity, 99 women (65.1%) believe that if the test is positive for HPV, they will not have CC. As for genital warts, the majority (85.5%) believe that HPV can cause genital warts. Regarding transmission, 121 interviewees (79.6%) stated that men also contract HPV, and 99 women (65.1%) confirmed that transmission occurs through direct contact with the genitals.

Table 2 - Distribution of knowledge, attitude and practice variables. Jataí, GO, Brazil, 2022 (n=152)

Variable		f	%
Are you familiar with Pap smear?	Adequate	150	98.7
	Inadequate	2	1.3
Purpose of the test?	Adequate	121	79.6
	Inadequate	31	20.4
Care?	Adequate	132	86.8
	Inadequate	20	13.2
Time interval?	Adequate	112	73.7
	Inadequate	40	26.3

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Continuation

Variable		f	%
Is prevention necessary?	Adequate	152	100.0
	Inadequate	0	0.0
Frequency?	Adequate	104	68.4
	Inadequate	48	31.6
When did you have the test?	Adequate	89	58.6
	Inadequate	63	41.4
Did you receive the result?	Adequate	99	65.1
	Inadequate	53	34.9
Did you schedule an appointment/result?	Adequate	80	52.6
	Inadequate	72	47.4
Vaccine protects?	Yes	20	13.2
	No	132	86.8
	Do not know	0	0.0
Vaccinated/cancer?	Yes	114	75.0
	No	38	25.0
	Do not know	0	0.0
Vaccine/sexual intercourse?	Sim	94	61.8
	No	58	38.2
	Do not know	0	0.0
HPV/cancer?	Yes	9	5.9
	No	99	65.1
	Do not know	44	28.9
HPV/warts?	Yes	130	85.5
	No	22	14.5
	Do not know	0	0.0
HPV/M?	Yes	121	79.6
	No	8	5.3
	Do not know	23	15.1
HPV/skin?	Yes	99	65.1
	No	17	11.2
	Do not know	36	23.7

Source: the authors

According to the method, the assessment of knowledge about HPV and the CIN prevention exam considered that 84 (55.2%) interviewees met the established criteria; therefore, knowledge was considered satisfactory. Although 100% of participants had the attitude considered adequate, the practice proved to be inadequate in the assessment of 91 (59.8%) women (Table 3).

Table 3 - Assessment of knowledge, attitude and practice. Jataí, GO, Brazil, 2022 (n=152)

	Knowledge	Attitude	Practice	p-value**
Adequate	84	152	61	
Inadequate	68	0	91	0.274
p-value*	0.194	-	0.015	

Legend: *chi-square test for proportion comparison; **chi-square test for homogeneity.
Source: the authors.

The difference between the proportions of the knowledge variable was not significant, being statistically equal. As for practice, the proportion of inadequacy was significant. The attitude variable was adequate in 100% of observations, not being included in the comparisons.

Given this information, the results showed significance for inadequate practice (Table 4) in the criteria related to number of children, in which women who had three or more children (9.5%) demonstrated inadequate practice regarding CIN and HPV prevention. Another variable that showed relevance for inadequate practice was skin color. Asian women (2.4%), even though they were not the majority, demonstrated inadequate practice in CC and HPV prevention. Thus, the variables skin color and number of children have a close relationship with ineffective practice.

Table 4 - Relationship between knowledge and practice variables with social and labor variables. Jataí, GO, Brazil, 2022 (n=152).

	Knowledge					Practice				
	Adequate		Inadequate			Adequate		Inadequate		
	f	%	f	%		f	%	f	%	
Lives in Jataí**										
Yes	51	60.7%	33	48.5%		39	63.9%	45	49.5%	
No	33	39.3%	35	51.5%	0.133	22	36.1%	46	50.5%	0.078
Number of children***										
0	61	72.6%	56	82.4%		44	72.1%	73	80.2%	
1	6	7.1%	4	5.9%		8	13.1%	2	2.2%	
2	9	10.7%	5	7.4%		4	6.6%	10	11.0%	
3	8	9.5%	3	4.4%	0.499	5	8.2%	6	6.6%	**0.05***

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	Knowledge					Practice				
	Adequate		Inadequate			Adequate		Inadequate		
	f	%	f	%		f	%	f	%	
Marital status*										
Single	56	66.7%	55	80.9%		41	67.2%	70	76.9%	
Married	19	22.6%	9	13.2%		15	24.6%	13	14.3%	
Stable union	7	8.3%	4	5.9%		5	8.2%	6	6.6%	
Divorced	2	2.4%	0	0.0%	0.190	0	0.0%	2	2.2%	0.256
Work?**										
Yes	47	56.0%	29	42.6%		32	52.5%	44	48.4%	
No	37	44.0%	39	57.4%	0.103	29	47.5%	47	51.6%	0.620
Skin color*										
Black	9	10.7%	8	11.8%		2	3.3%	15	16.5%	
Brown	41	48.8%	31	45.6%		26	42.6%	46	50.5%	
White	32	38.1%	26	38.2%		31	50.8%	27	29.7%	
Yellow	2	2.4%	3	4.4%	0.899	2	3.3%	3	3.3%	**0.015***
Age***										
17-39	73	86.9%	62	91.2%		54	88.5%	81	89.0%	
40-59	10	11.9%	6	8.8%		6	9.8%	10	11.0%	
≥60	1	1.2%	0	0.0%	0.245	1	1.6%	0	0.0%	**0.463**
Income in minimum wage***										
< 1	2	2.4%	3	4.4%		0	0.0%	5	5.5%	
1	17	20.2%	21	30.9%		16	26.2%	22	24.2%	
2	27	32.1%	16	23.5%		14	23.0%	29	31.9%	
≥3	38	45.2%	28	41.2%	0.347	31	50.8%	35	38.5%	**0.126**
Education										
Elementary school	1	1.2	1	1.5		0	0	2	2.2	
High school	1	1.2	6	2.9		0	0	3	3.3	
Higher education	82	97.6	65	95.6	0.733	61	100	86	94.5	0.177

Legend: * Fisher's exact test; **chi-square test; ***Kruskal-Wallis test.
Source: the authors

In relation to the knowledge variable, those that presented significance were considered for adjustment of the Poisson model with robust variance, as well as those that presented p-value <0.20, namely: lives in Jataí; marital status; works; vaccine protects; vaccinated has cancer; vaccine/sexual intercourse; HPV causes cancer; HPV/warts; HPV/M; and HPV skin. The variables that presented significance in the adjustment were HPV causes cancer, HPV/skin and marital status. As for practice, those that presented significance were considered for the adjustment of the Poisson model with robust variance, as well as those that presented p-value <0.20, such as lives in Jataí, number of children, skin color, minimum wage income, education, HPV causes cancer and HPV/M. The results showed that of all the variables presented, only lives in Jataí, HPV causes cancer, minimum wage income and education were associated with adequate practice and are represented in Table 5.

Table 5 - Poisson regression for estimating appropriate practice. Jataí, GO, Brazil, 2022 (n=152).

Parameter		95% CI		
	PR	Lower	Upper	Sig.
Jataí				
Yes	0.902	0.823	0.988	0.027
No	1.00			
HPV causes cancer				
Yes	0.776	0.627	0.961	0.020
No	0.914	0.823	1.016	0.096
Do not know	1.00			
Income in minimum wage				
<1	1.157	1.031	1.300	0.013
1	**1.012**	0.897	1.143	0.841
2	**1.056**	0.947	1.178	0.328
≥ 3	**1.00**	.	.	.
Education				
Elementary school	**1.186**	1.040	1.353	0.011
High school	**1.336**	1.137	1.570	<0.001
Higher education	**1.00**	.	.	.

Legend: PR - prevalence ratio; 95% CI - 95% Confidence Interval.
Source: the authors

Discussion

Several factors influence the development of CC, such as problems related to women's knowledge regarding preventive methods for this neoplasm. Among the several factors that lead some women to not perform Pap smear regularly are low education, lack of a partner, extremes of age, lack of time, difficult access to healthcare services and embarrassment[10].

Women without children should have adequate knowledge, since the presence of children directly impacts the overload of tasks, which interferes with women's time to take care of themselves, study and attend healthcare services for exams[18]. However, according to assessment, 80.2% of those who did not have any children and were single demonstrated low knowledge and practice regarding Pap smear and HPV. Contrary to the assessment carried out in Camaçari, Bahia, young women without children seek healthcare services to resolve gynecological problems more frequently than older women[19].

The predominance of brown women in this study was 47.4%. Most studies do not discuss the significance of results related to skin color. However, some findings suggest that changes in Pap smear are directly related to white skin, as most women who seek healthcare services for the preventive test also declare themselves to be white[20]. In a study carried out in the countryside of São Paulo, the women who presented more satisfactory knowledge about the test were mostly non-white[21].

The skin color variable, whose association with inadequate practice was quite evident, corroborates studies carried out with British women, highlighting the relationship between skin color and the lack of knowledge focusing on CC and related risk factors, in addition to recommendations for prevention[22].

In a survey conducted in Saudi Arabia, the prevalent age of women was 32 years, with the majority being over 25 years old, however, participants over 25 years old were in a stable union and had children[23]. However, other studies have shown that practice was directly associated with age and the onset of sexual activity.

Consequently, women aged 45 to 64 years had a higher percentage of adequate practice and knowledge when compared to young women[24].

The socioeconomic factor is important and is directly related to women's preventive behavior. In a study carried out in Ananindeua, Pará, most women live on an average of two minimum wages[25], directly corroborating this study, in which most women earn three minimum wages or more. One of the main factors that hinder the search for the service is low income, since the lack of knowledge provided by the lack of income and often of education makes women feel embarrassed to seek the service. Women with an income of less than three minimum wages seek the healthcare service more for curative issues, and not preventive ones, and this makes it difficult to get the exam covered[7]. Non-adherence to the exam is directly related to low income, low education, single women and non-white skin[26].

There was a greater attitude among participants (100%), and the majority (98.7%) are aware of the cytopathological exam, as well as research carried out in Saudi Arabia and Bangladesh, which confirms that higher education and type of profession are strongly associated with knowledge about HPV and Pap smear[23,27]. Regarding marital status, 73% of women are single, different from the study carried out in Rio Branco, Acre, where 68.1% of participants reported having a partner, thus demonstrating a greater attitude and practice regarding CC prevention[10].

One point to be considered when assessing women's knowledge and adherence to Pap smear is the difference between residents of urban and rural areas. This can be justified by the concentration of health units in one area while the other lacks services, directly influencing access to reliable health information and decreasing adherence[28].

Jataí is a municipality in the countryside of Goiás with approximately 397,386 inhabitants and which has 11 Basic Health Units in the urban perimeter and three in rural districts[16]. Despite the reasonable number, the city still has uncovered sectors where the population is served by nearby units. It is worth noting that the interviewees residing in Jataí (55.3%) showed significant differences in relation to the practice of HPV and Pap smears. Therefore, it can be considered that the residents of the municipality have adequate practice.

Pap smear is used to detect early precursor lesions of CC(3). Although the study included a young population, the women who responded to the survey knew the purpose of the test (79.6%). According to the study carried out in Rio de Janeiro, only 25.7% of participants were unaware of the test purpose[29]. Women's knowledge about CC and prevention methods is quite limited. As a result, screening ends up being unsatisfactory, highlighting the need for professionals to adapt health education measures to encourage women, ensuring better adherence to the exam and reducing the risk of contagion[30].

Most of interviewees (86.6%) were able to identify the precautions to be taken before performing a Pap smear. In order to obtain reliable results, women should abstain from sexual intercourse for two days prior to the test, avoid using vaginal douches as much as possible, and stop taking intravaginal medications for 48 hours prior to the test. Moreover, it is preferable for women not to be menstruating, as the presence of blood can alter the result[3].

Deaths from CC usually occur in women who have never sought screening for precursor lesions. The progression of malignant lesions can be prevented through preventive screening. Therefore, screening in underdeveloped countries should be encouraged(30). All participants who agreed to take part in the study stated that prevention is necessary. Thus, it can be seen that, even when information is not complete or correct, the media ends up contributing to the dissemination of health information[24].

The adequate interval presented by 73.7% of women supports the research carried out in São Mateus, Espírito Santo, where it was found that 98.89% of women considered the frequency of the preventive exam adequate[24].

Of the women who participated, 68.4% had adequate practice regarding exam frequency, which is every three years, after two consecutive normal exams3, unlike the study carried out in Espírito Santo, where 39.7% of women performed the procedure annually and 3.3% had never performed the exam[24].

The low frequency of examinations (58.6%) may be due to women not seeking medical care until they have an acute complaint, which directly interferes with the prevention and screening of neoplasm[3].

In a study conducted in Cambodia, 52% of women did not know that examination should be performed regularly and only sought medical care when a gynecological complaint arose[30]. Even though Pap smear is available free of charge in all Basic Health Units, one of the reasons for non-adherence to the exam is the delay in receiving the results[24].

Vaccines, when administered before the first sexual intercourse, have a higher percentage of effectiveness, since unprotected sexual contact is one of the ways in which HPV is transmitted[9]. It is important to highlight that cytopathological examination and condom use are necessary even in the immunized population. Regarding prevention against CC, immunization is a prophylaxis that reduces infection or development of neoplasm[7]. In this study, women presented satisfactory responses regarding vaccination before their first sexual intercourse. Therefore, knowledge and practice were adequate.

People who have had some type of STI are more likely to have some knowledge about HPV, when compared to those who have never had one. Thus, people with a family history of STIs are 1.76 times more likely to vaccinate their children against HPV than those who have never had any STI[7].

Although HPV is often asymptomatic, it is directly related to CC, causing the death of countless women every year. In Brazil, there are two types of vaccines: the bivalent, which protects against types 16 and 18, and the quadrivalent, which protects against types 6, 11, 16 and 18(3). In this study, knowledge (79.8%) about the vaccine and CC, as well as practice (75.4%), were considered adequate. The vaccine is a preventive tool that attempts to reduce the rates of oncogenic HPV infections in women[27].

Of the women interviewed, 90.5% had adequate knowledge about HPV-related warts, and 85.7% demonstrated inadequate practice. When it comes to HPV, preventive measures such as using condoms during sexual intercourse, even with only one partner, vaccination before starting sexual activity, and stopping smoking become great allies against infection(6). Furthermore, although 79.8% had adequate knowledge regarding the positivity of the HPV cytopathological test, 59.3% did not know the meaning of an abnormal result, an extremely worrying situation, since the test is a strategy for early detection of precursor lesions. It is a low-cost, simple and fast method that should be offered to individuals with a uterus between 25 and 64 years of age who have already had sexual intercourse[1].

The results found should be interpreted within the context of their limitations. The data were self-reported in order to be subject to participants' memory and response. Although the study was conducted via social networks and access to information was easy, some participants may have omitted or forgotten data, and the veracity of these data was not checked at any healthcare service. The limited sample of women aged 18-64 years, treated in Jataí, Goiás, and by the SUS, limits the generalization of results. Finally, the non-performance of Pap smear is highly dependent on the cultural, social and economic factors experienced by different female populations.

Adequate knowledge supports a positive process regarding adherence to the CIN prevention test. However, the lack of this understanding reinforces a challenge to be met by healthcare service teams, since low knowledge is a limiting factor for access to CC screening, so it is necessary for professionals to identify the female perspectives of healthcare system users[24].

An adequate attitude can positively benefit health practices, instigating women to reflect on the test and consider it important to increase their adherence[18]. The inadequate practice presented in this study differs from a study carried out in Recife in which women demonstrated 70.6% of adequate practice. However, in relation to the 5.4% who did not take the exam, lack of interest was indicated as the main aggravating factor (32.4%)[18].

This negative attitude increases the possibility of women seeking a Pap smear only when there are gynecological symptoms. It is up to nurses to understand which strategies will encourage women to seek the service, even when they do not have symptoms[24].

Conclusion

The results analyzed highlighted that participants presented a satisfactory attitude, but demonstrated low knowledge and practice regarding the preventive examination for CC and HPV. These findings can be justified by the fact that healthcare professionals encourage the performance of the preventive examination. However, there is still a need for educational actions that encourage knowledge in order to meet women's needs. Even though the majority are aware of the examination and have already done it at some point in their lives, some conditions do not favor access to Pap smear, such as the absence of children and skin color.

Furthermore, it is still necessary to increase the number of samples collected for the test and to direct health education actions, strengthening the care provided. According to the data presented in this study, it was clear that there is a need to implement educational actions, highlighting the purpose of Pap smear, enabling prevention methods. Whether in a

group or individually, it is essential to carry out activities to build bonds between the health team and the female population they assist.

Author Contributions

Macedo, ENO. participated in: Conception and design of the research, acquisition of data, analysis and interpretation of data, writing of the manuscript and critical review of the manuscript for important intellectual content. Souza, MR. participated in: Conception and design of the research, analysis and interpretation of data, obtaining funding and critical review of the manuscript for important intellectual content. Borges, CJ. participated in: Conception and design of the research and critical review of the manuscript for important intellectual content. Silva, LA. participated in: Analysis and interpretation of data and writing of the manuscript.

Conflict of Interest

The authors certify that no commercial or associative interest presents a conflict of interest regarding the manuscript.

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