



Knowledge, attitude and practice of university students the health about Pap smears

Conhecimento, atitude e prática de universitárias da área da saúde sobre exame Papanicolaou

Conocimiento, actitud y práctica de universitarias del área de la salud sobre prueba de Papanicolaou

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ABSTRACT

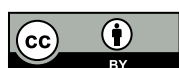
Objective: To analyze knowledge, attitude and practice regarding the Pap smear among university students in the health field.

Method: Analytical, cross-sectional study with a quantitative approach carried out in September and October 2018, with 540 academics from health courses at a higher education institution in the central hinterland of Ceará. Female students, over 18 years of age, who were duly enrolled were included. A questionnaire was used containing sociodemographic data and sexual history and a knowledge, attitude and practice survey type form, evaluating what was known, necessary care, the need and frequency of the exam and the return to seek the exam. The data were analyzed using the SPSS version 21.0 program, with the test being considered significant when $p < 0.05$. **Results:** University students have adequate knowledge about the purpose and periodicity of the exam, as well as adequate attitudes about the need to take the exam and when they should seek it. However, there are gaps in the care to be carried out before the exam and in terms of the practice of preventive exams, low adherence was evident. Thus, as observed in women who are not university students in the health field, there is a need to invest in health education within the scope of empowerment, with the promotion of interventions that seek to develop women's adherence to healthy habits, giving new meaning to the female role in the face of to your body and your choices. **Conclusion:** The gap between knowledge and application is noticeable, with a disagreement being seen between theoretical knowledge and its application in the daily lives of academics.

Descriptors: Women's Health; Pap smear test; Knowledge; Attitudes and Practice in Health; Neoplasms of the Cervix.

RESUMO

Objetivo: Analisar conhecimento, atitude e prática sobre o exame Papanicolaou entre universitárias da área de saúde. **Método:** Estudo analítico, transversal com abordagem quantitativa realizado nos meses de setembro e outubro de 2018, com 540 acadêmicas de cursos da área da saúde de uma instituição de ensino superior no sertão central do Ceará. Foram incluídas estudantes do sexo



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feminino, maiores de 18 anos, que estavam devidamente matriculadas. Utilizou-se um questionário contendo dados sociodemográficos e antecedentes sexuais e um formulário do tipo inquérito conhecimento, atitude e prática, avaliando o que se sabia, cuidados necessários, a necessidade e periodicidade da realização e o retorno para buscar o exame. Os dados foram analisados no programa SPSS versão 21.0 sendo considerado o teste significativo quando $p < 0,05$. **Resultados:** As universitárias possuem conhecimentos adequados sobre a finalidade e periodicidade do exame, assim como atitudes adequadas sobre a necessidade de realizar o exame e quando devem procurar. No entanto, apresentam lacunas quanto aos cuidados a serem realizados antes do exame e quanto à prática do exame preventivo, evidenciou-se uma baixa adesão. Assim, como observado em mulheres que não são universitárias da área da saúde, percebe-se a necessidade de investir em educação em saúde no âmbito do empoderamento, com promoção de intervenções que busquem desenvolver, na mulher, adesão a hábitos saudáveis, ressignificar o papel feminino frente ao seu corpo e suas devidas escolhas. **Conclusão:** É perceptível a lacuna entre o conhecimento e a aplicação, sendo visto desacordo entre saber teórico com sua aplicação na vida cotidiana das acadêmicas.

Descritores: Saúde da Mulher; Teste de Papanicolaou; Conhecimentos; Atitudes e Prática em Saúde; Neoplasias do Colo do Útero.

RESUMEN

Objetivo: Analizar conocimiento, actitud y práctica sobre la prueba de Papanicolaou entre universitarias del área de la salud. **Método:** Estudio analítico, transversal, cuantitativo, realizado de septiembre y octubre de 2018, con 540 académicas de cursos del área de la salud de una institución de enseñanza superior en el sertón central del Ceará. Fueron incluidas estudiantes del sexo femenino, mayores de 18 años, debidamente inscritas. Fue utilizado un cuestionario con datos socio-demográficos y antecedentes sexuales y una solicitud de tipo encuesta conocimiento, actitud y práctica, evaluando lo que se sabía, cuidados necesarios, la necesidad y periodicidad de la realización y el regreso para recoger la prueba. Los datos fueron analizados en el programa SPSS, siendo considerado el test significativo cuando $p < 0,05$. **Resultados:** Las universitarias poseen conocimientos adecuados sobre la finalidad y periodicidad de la prueba, como también actitudes adecuadas sobre la necesidad de realizar la prueba y cuando deben buscar. Sin embargo, huecos se presentan cuanto a los cuidados antes de la prueba y cuanto a la práctica de la prueba preventiva, fue evidenciada una baja adhesión. Así, como observado en mujeres que no son universitarias del área de la salud, se nota la necesidad de invertir en educación en salud en el ámbito del empoderamiento, como promoción de intervenciones que busquen desarrollar en la mujer adhesión a los hábitos saludables, volver a dar significado a la función femenina ante su cuerpo y sus elecciones. **Conclusión:** Esperceptible el hueco entre el conocimiento y la aplicación, siendo visto desacuerdo entre saber teórico con su aplicación en la vida cotidiana de la académicas.

Descriptor: Salud de la Mujer; Prueba de Papanicolaou; Conocimiento, Actitudes y Práctica en Salud; Neoplasias del Cuello Uterino.

INTRODUCTION

In Brazil, cervical cancer (*câncer do colo do útero* – CCU) is the third most prevalent cancer among women, with an estimated 16,590 new cases annually between 2020 and 2022, resulting in a risk rate of 15.43 cases per 100,000 women. In Ceará State, this type of cancer is the third most common cancer, with an estimated incidence of 15.13 to 20.90 cases per 100,000 women, and is considered a significant public health concern⁽¹⁾.

Several factors contribute to its development, including the human papillomavirus (HPV), particularly HPV-16 and HPV-18, responsible for roughly 70% of cervical cancers. Several factors contribute to its development, including the human papillomavirus (HPV), particularly HPV-16 and HPV-18, responsible for roughly 70% of cervical cancers. Although HPV infection is an important condition for the development of the neoplasm, there are other well-known factors that can increase its incidence, including smoking, early sexual initiation, multiple sexual partners, multiparity and the use of oral contraceptives⁽²⁾.

Given the disturbing statistics, the management of this disease has traditionally been addressed within the public health sector, including epidemiology, policy, planning, and health care administration, particularly in the area of women's health. The current policy is based on the publication "Guidelines for Cervical Cancer Screening" (*Diretrizes para o Rastreamento do Câncer do Colo do Útero*), in which the Ministry of Health recommends that the cytopathological test, also known as the "Pap smear", be carried out annually on asymptomatic women between the ages of 25 and 64, with the aim of diagnosing cancerous and precancerous conditions and determining a woman's risk of developing cancer⁽³⁾.

Despite the recognition of the importance of this gynecological examination and attempts to transform it into an educational opportunity, several women do not consider it a routine procedure. Obstacles persist due to a range of psychosocial and cultural factors such as discomfort, unease, embarrassment, age, marital status, education, income, religion, geographic location, inadequate understanding of the pathology, the examination, and their own anatomy, and reluctance to permit their partner to conduct the exam^(4,5).

Non-adherence to health exams poses a significant challenge for health promotion and disease prevention professionals, resulting in numerous complications for women and society. Limited understanding regarding the necessity and benefits of taking the test is the most concerning factor that obstructs women from accessing it. This lack of knowledge leads to the postponement of seeking health services, which ultimately has a negative impact on reducing survival indicators associated with this type of cancer⁽⁶⁾.

It is concerning that professionals in the health sector, who are expected to possess knowledge of the subject, may lack competence. However, training and professional development should be pursued to enable these individuals to provide effective support for this type of care⁽⁷⁾. Understanding the level of knowledge, practice and attitude of professionals or future professionals, who work or will work, in relation to CCU control actions, can contribute to the situational diagnosis and planning of continuing education actions, strategic actions to control this cancer according to the needs of the female population, as well as increasing knowledge on the subject⁽⁸⁾.

The relevance of the research is based on the fact that it is necessary to identify the knowledge, attitude and practice of health academics, as they will be responsible for spreading information with health education, favoring the formation of opinion on the performance of the Pap smear for society. Health education designed for CCU screening is a tool that favors adherence to the test. Therefore, the aim of this study was to analyze knowledge, attitude and practice regarding the Pap smear among university students in the health field.

METHOD

This is a cross-sectional survey with a quantitative approach carried out in September and October 2018 at a university center in the city of Quixadá, located in the Central Sertão, a region of Ceará.

The study population was made up of female students over the age of 18 who were enrolled in health courses. However, students who were not in class on the days of data collection due to a health certificate or sick leave were excluded.

To determine the number of participants, we considered the number of female students enrolled in the 2018.2 academic year, as provided by the institution. There was a total of 3,009 students in the 2018.2 academic year, with 1,257 enrolled in health courses, of which 814 were female.

To ensure the largest possible sample size, a calculation was made using a 50% occurrence rate of the event of interest in the population. An additional 15% was included in the sample to account for possible losses and to control for confounding variables, resulting in a total of 540 female health course students.

Data collection took place in the institution's classrooms, during break time, after a brief explanation of the objectives and benefits of the research, and those who agreed to take part, signed a Free and Informed Consent Form (*Termos de Consentimento Livre e Esclarecido – TCLE*). The Knowledge, Attitude and Practice (*conhecimento, atitude e prática – CAP*) survey questionnaire was used to assess the population's knowledge of the subject and their attitude and practice towards the problem. The CAP survey model used in the research was adapted from another study⁽⁹⁾. The study implemented a survey with 31 multiple-choice items that were objective in nature and categorized into two parts. The first component focused on⁽¹⁾ socio-demographic characterization as well as the sexual and reproductive history of women, while the second component assessed⁽²⁾ knowledge, attitude, and practice related to the Pap smear.

To analyze data on women's knowledge, attitudes, and practices related to Pap smears, the adopted definitions were as follows⁽⁹⁾:

- Adequate knowledge: when the woman said she had heard of the test, knew that it was to detect cancer in general, or specifically cervical cancer, and could name at least two necessary precautions she should take before having the test;
- Inadequate knowledge: when the woman said she had never heard of the test or had heard of it but didn't know it was for detecting cancer; or when she couldn't name at least two necessary precautions she should take before having the test;
- Appropriate attitude: when the woman considered it necessary to have the test periodically, and also referred to the fact that it should be carried out even if she was healthy, because the test is to prevent cervical cancer. A woman considering it necessary to have a Pap smear periodically and indicating that she should seek it out periodically because it is a routine test was only considered an adequate attitude when, at the same time, she had adequate knowledge about the test;
- Inadequate attitude: If the woman considered the test unnecessary, not necessary, had no opinion about the need for the test, or had the test for reasons other than cervical cancer prevention;

- Adequate practice: when the woman had her last preventive examination no more than three years ago; returned to receive the last result of the examination carried out and/or showed the result of the examination to a health professional;
- Inadequate practice: if they had their last preventive exam more than three years ago, or never had the exam even though they started having sex more than a year ago, or didn't return to get the last result and/or didn't show the result to a health professional.

The data obtained was organized and tabulated in Excel 2010 and analyzed using SPSS version 21.0. In this descriptive statistical analysis of the data, the means and standard deviation of the quantitative variables were considered, while for the categorical variables, the absolute and relative frequencies were analyzed. The χ^2 test of association was used to verify the existence of an association between the characteristics studied and the knowledge, attitudes and practices of the exam. The test was considered significant when $p < 0.05$.

RESULTS

A total of 540 students aged between 20 and 47 took part in the study, and their sociodemographic and reproductive characteristics are shown in Table 1. With regard to the distribution of courses, 125 (23.3%) were from Nursing, 116 (21.5%) from Pharmacy, 108 (20%) from Dentistry, 103 (19.1%) from Physiotherapy, 46 (8.5%) from Physical Education and 41 (7.6%) from Biomedicine.

Table I - Distribution of students in relation to the characteristics studied. Quixadá, CE, Brazil, 2021. (N=540).

Characteristics	N	%	
Age	> 20 years old	128	23.7
	Between 30 and 35	408	75.6
	Between 30 and 35	2	0.4
	Over 45	2	0.4
Has a partner	Yes	63	11.7
	No	477	88.3
Religion	Catholic	402	74.4
	Evangelical	82	15.2
	Adventist	10	1.9
	Spiritist	14	2.6
	Other	32	5.9
Income	< 1 minimum salary *	100	18.5
	From 1 to 2 salaries	266	49.3
	> 2 minimum salaries	174	32.2
Has children	Yes	46	8.5
	No	494	91.5
Active sex life	Yes	396	73.3
	No	144	26.7
Active sex life for more than 1 year	Yes	413	76.5
	No	127	23.5
Permanent partner	Yes	340	63.0
	No	78	14.4
	No partner	122	22.6
Had a tubal ligation	Yes	17	3.1
	No	523	96.9
Using contraception	Yes	311	57.6
	No	229	42.4
Had sexually transmitted infections	Yes	8	1.5
	No	503	93.1
	Don't know	29	5.4

Source: Prepared by the authors.

*Minimum salary at the time of the survey: R\$1.100.00

In relation to the level of knowledge inherent in the Pap smear, it was observed that the majority of women knew about the existence of the test and its purpose, presenting adequate knowledge (54.8%) about it. However, with regard to the care needed before the test, there is still a significant number of students who do not have this knowledge.

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Regarding attitude, the examination was carried out with high adequacy (89.1%) and correct periodicity. It is noteworthy that the majority of students exhibited inadequate practices (63%) as shown in Table 2.

Table II - Knowledge, attitude and practice of students in relation to the Pap smear. Quixadá, CE, Brazil, 2021. (N=540).

Characteristics	Adequate		Inadequate	
	N	%	N	%
Knowledge	296	54.8	244	45.2
Attitude	481	89.1	59	10.9
Practice	200	37.0	340	63.0

Source: Prepared by the authors.

Another important point in this study concerns the reasons given by women for not having a Pap smear, in which the majority (48.3%) said they didn't know why. Among those who gave reasons, carelessness (16.4%) on their part and the lack of a request from the health professional (9.6%) were the main reasons for the barrier and access to health services for Pap smears.

Table III - Reasons given by women for not having a Pap smear. Quixadá, CE, Brazil, 2021. (N=540).

Reasons	N	%
No request from the health professional	52	9.6
Not sick, don't hurt anything	19	3.5
No one to leave children/parents with	1	0.1
Can't miss work	1	0.1
By shame	42	7.7
By fear	23	4.2
By carelessness	89	16.4
Lack of time	48	8.9
Others	7	1.2
Don't know	258	48.3

Source: Prepared by the authors.

Adequate knowledge, attitude and practice were more evident among students aged between 20 and 35, without a partner, Catholic, with an income of between one and two minimum salaries, without children and who did not work outside the home. Adequate knowledge about Pap smears was significantly associated with age, marital status, working outside the home and having children. The attitude showed a significant association with age and having children. Practice, on the other hand, was not statistically significantly associated with religion, as can be seen in Table 4. Religion showed no relationship with the parameters studied.

Table IV – Women’s knowledge, attitude and practice about the Pap smear according to socioeconomic variables. Quixadá, CE, Brazil, 2021. (N=540).

Characteristics	Adequate knowledge		Adequate attitude		Adequate practice	
	N(%)	p-value	N(%)	p-value	N(%)	p-value
Age						
> 20 years old	41(7.6)		103 (19.1)		31 (5.7)	
Between 30 and 35	251 (46.5)	0.001*	375 (69.4)	0.001*	165 (30.6)	0.001*
Between 30 and 35	2 (0.4)		2 (0.4)		2 (0.4)	
Over 45	2 (0.4)		1 (0.2)		2 (0.4)	
Civil status						
With a partner	42 (7.8)	0.044*	58 (10.7)	0.418	39 (7.2)	0.001*
Without a partner	254 (47.0)		423 (78.3)		161 (29.8)	
Religion						
Catholic	224 (41.5)		362 (67.0)		148 (27.4)	
Evangelical	41(7.6)		69 (12.8)		31 (5.7)	
Adventist	5 (1.3)	0.845	10 (1.9)	0.418	5 (0.9)	0.901
Spiritist	7 (1.3)		12 (2.2)		5 (0.9)	
Other	19 (3.5)		28 (5.2)		11 (2.2)	
Work away from home						
Yes	74 (13.7)	0.021*	106 (19.6)	0.230	53 (9.8)	0.026*
No	222 (41.1)		375 (69.4)		147 (27.2)	
Family income						
> 1 Minimum salary	52 (9.6)		90 (16.7)		39 (7.2)	
From 1 to 2 salaries	144 (26.7)	0.649	235 (43.5)	0.864	90 (16.7)	0.047*
< 2 salaries	100 (18.5)		156 (28.9)		71 (13.1)	
Has children						
Yes	32 (5.9)	0.036*	37 (6.9)	0.050*	29 (5.4)	0.001*
No	264 (48.9)		444 (82.2)		171 (31.7)	
Total	296 (54.8)		481 (89.1)		200 (37.1)	

Source: Prepared by the authors. * χ^2 test.

Statistically significant findings were observed between the students’ adequate knowledge and all variables related to sexual life, with the exception of having undergone a tubal ligation (refer to Table 5). Adequate attitude was significantly correlated with a sexual life that was active for more than a year, having a steady partner, and having had a tubal ligation. Adequate practice, on the other hand, exhibited association with all variables, as illustrated in Table 5.

Table V – Assessment of the adequacy of knowledge, attitude and practice regarding the Pap smear according to variables related to sexual life. Quixadá, CE, Brazil, 2021. (N=540).

Characteristics	Adequate knowledge		Adequate attitude		Adequate practice	
	N (%)	p-value	N (%)	p-value	N (%)	p-value
Active sex life						
Yes	244 (45.2)	0.001*	360 (66.7)	0.023*	173 (32.0)	0.001*
No	52 (9.6)		121 (22.4)		27 (5.0)	
Active sex life more than 1 year						
Yes	256 (47.4)	0.001*	374 (69.3)	0.046*	178 (33.0)	0.001*
No	40 (7.4)		107 (19.8)		22 (4.1)	
Permanent partner						
Yes	206 (38.1)	0.001*	310 (57.4)	0.029*	154 (28.5)	0.001*
No	44 (8.1)		63 (11.7)		20 (3.7)	
I don't have any	46 (8.5)		108 (20.0)		26 (4.8)	
Had a tubal ligation						
Yes	12 (2.2)	0.184	11 (2.)	0.001*	10 (1.9)	0.017*
No	284 (52.6)		470 (87.0)		190 (35.2)	
Contraceptive use						
Yes	187 (34.6)	0.004*	284 (52.6)	0.051	144 (26.7)	0.001*
No	109 (20.2)		197 (36.5)		56 (10.4)	
Had sexually transmitted infections						
Yes	8 (1.5)	0.035*	7 (1.3)	0.985	3 (0.6)	0.008*
No	272 (50.4)		448 (83.0)		190 (35.2)	
Don't know	16 (2.9)		26 (4.8)		7 (1.3)	
Total	296 (54.8)		481 (89.1)		200 (37.1)	

Source: Prepared by the authors. * χ^2 test

DISCUSSION

Although most of the students had adequate knowledge of the Pap smear (54.8%), this finding is lower than that of a study carried out with 145 students from the Humanities, Health and Exact Sciences, in which 95.2% said they knew about the test⁽¹⁰⁾.

It was also found that 45.2% of the students reported that they were unaware of the test. This lack of knowledge became more evident when the care needed to carry it out was mentioned as a worrying factor. Thus, the study involved health students and showed that they know the necessary guidelines to provide women who wish to undergo the Pap smear⁽⁹⁾. Therefore, knowing does not guarantee adequate practice. It is clear that there is a conflict between the knowledge acquired and its application in the daily lives of the students, even though they are in a health training institution, preparing to work actively with the community through health education, their preventive behaviors may be uncommon and their lifestyle unhealthy⁽⁷⁾.

The National Cancer Institute (*Instituto Nacional do Câncer – INCA*) emphasizes the importance of taking care before taking the test to ensure a correct result. Therefore, there is a need to carry out actions with the intention of increasing these students' knowledge about the exam⁽³⁾.

The evidence on students' attitudes towards the Pap smear corroborates the evidence from a study involving nursing students in the city of São Paulo. There was an adequate index in relation to their attitude when they recognized the importance of the test, the need to perform it and the correct periodicity⁽¹¹⁾.

The study revealed that 63% of students demonstrated satisfactory practices, which aligns with the findings from a similar study of health students (52.4%) at a university in the Northeast⁽⁷⁾. However, when compared to the attitudes of users of basic health units, there is a discrepancy, as they have a much lower prevalence of appropriate practice (17.4%)⁽¹²⁾. It is evident that an increased level of knowledge supports proper healthcare practices, and it is crucial for all women to have access to quality information and care.

In this scenario, the role of primary health care (*atenção primária à saúde – APS*), especially within the Unified Health System (*Sistema Único de Saúde – SUS*), is fundamental for controlling CCU⁽⁸⁾. It is understood that it is important to strengthen programs focused on education, dissemination and guidance involving this pathology and how to prevent it, with a view to reducing morbidity and mortality rates and, consequently, improving women's quality of life⁽¹³⁾.

Regarding the reasons for not having an examination, the most common were the women's carelessness and the lack of a request from the health professional. This finding supports the results of a study conducted in the city of Icó, Ceará, involving 379 women, which showed that carelessness was the main reason (29.4%), possibly due to increased work activities and family responsibilities⁽¹³⁾. The demanding daily routine poses a challenge to practicing self-care. Women are constantly advancing their careers and education while shouldering numerous other responsibilities – such as domestic duties, caring for their families and children – creating a complex mixture of activities that make self-care essential for maintaining physical, social, and mental well-being and quality of life⁽¹⁴⁾.

Currently, health professionals are looking for effective strategies that can increase women's adherence to the exam. Therefore, it is necessary to invest in the importance of considering facilitating motivational variables (self-efficacy and the construction of the intention to adhere) when planning and evaluating health education interventions⁽¹⁵⁾.

Health education is an integral part of people's culture and way of life, serving as a crucial mechanism for promoting social change. It is essential because it facilitates moments of introspection and encourages the reduction of ingrained stigmas, while providing women with opportunities for dialogue. Thus, the use of advanced technologies and a dialogic framework for redesigning care can promote better communication between health care providers and patients, enable more informed women to participate in health care.

It is essential for future health professionals to be aware of this reality, since morbimortality from this cancer still reflects poor preventive and early detection actions. A study carried out in Bahia with 82 participants (nurses, community health agents, gynecologists and managers) indicated that, although these women are being captured, other problems are related as a challenge for the prevention and treatment of this cancer, from detection (failures in collecting the Pap smear and/or in reading the slides in the laboratory, low involvement of APS doctors, lack of coordination of care between levels) to the treatment of CCU (barriers to accessing specialized services, fragmentation between services, delays in treatment), which gives us a glimpse of the vulnerability of these women to CCU⁽¹⁷⁾.

The data showed that an income of one to two minimum salaries is associated with better knowledge, attitude and practice. In a study involving 154 students from the health sciences and 319 students from other areas of study, it was found that knowledge of the Pap smear (OR = 4.32, 95% CI: 1.75-10.64), as well as its periodicity (OR = 2.53, 95% CI: 1.12-5.71), were higher in individuals with a higher family income⁽¹⁸⁾. Thus, the Health Reform Movement's concept of health recognizes the impact of social determinants of health (*determinantes sociais da saúde – DSS*), such as income, education, and access to essential goods and services, in conditioning and determining health⁽¹⁹⁾.

The religious context did not correlate with the academic practice. However, a survey of primary care users in the Southeast Region highlighted religion as a reason why some women decline to have the exam. It is crucial for primary care health professionals to implement alternative health actions, including religious partnerships, to better serve the population and increase exam adherence⁽⁵⁾.

With regard to sexual variables, it was found that having a sexually active life favors an appropriate attitude. Confirming this data, a study showed that 17.9% do not adhere to the Pap smear because they do not think it is necessary if they do not have a sexual partner⁽⁸⁾.

A reflection to be made is that, although the students had an adequate level of knowledge and attitude, these factors were not enough to have an impact on their practice, with a high rate of students with inadequate practices. A study conducted in Rio de Janeiro involving 154 health students revealed that 95.5% of the participants were aware of the test and its frequency (97.4%). Moreover, in terms of attitude, 70.8% knew what an altered result meant and 80% said they would return to the doctor's office to receive the result⁽²⁰⁾.

Thus, educational activities aimed at women's health are necessary, particularly for non-university women, to provide knowledge on the prevention of cervical cancer through early diagnosis as well as Sexually Transmitted Infections (*Infecções Sexualmente Transmissíveis – IST*). Additionally, these activities should address issues relating

to feelings and fears. It is therefore necessary for professionals to plan strategies that address women's doubts and fears, taking into account their socio-cultural and economic aspects, in order to strengthen the therapeutic connection and enable a better understanding of the meaning and importance of the exam, based on a holistic view of health⁽²¹⁾.

Interventions aimed at improving women's adherence to healthy habits to promote empowerment require active listening on the part of professionals and a holistic view of the individual^(4,20).

The gap in the students' knowledge was seen only when it came to carrying out the test in cases of tubal ligation. Some women, due to lack of knowledge and understanding of the importance of the Pap smear, believe that they do not need to have it because of tubal ligation and hysterectomy. This is a challenge for health services as it reduces access to the test for these women and consequently reduces the coverage of those who may be at risk of cervical cancer⁽²²⁾.

A study that assessed the knowledge, attitude and practice of Family Health Strategy (ESF) professionals on cervical cancer (CCU) control found that only 50.3% of professionals carried out educational activities for users. It is clear that this is a scenario that needs to be changed, given that health education is a practice capable of changing behavior, empowering individuals and strengthening ties between the community and health services⁽²³⁾.

Health science students are privileged with greater access to specific topics and represent future health professionals playing an important role in health education among the population. However, there is still a lack of knowledge about the more complex relationships between HPV, its forms of infection and related outcomes among these groups of students, presenting a pattern of knowledge similar to that of students from areas not related to health⁽¹⁸⁾.

The study's limitation was the lack of association between the outcome and the types of courses, semesters and subjects taken. To solve this problem, we recommend implementing new strategies aimed at women's health in the curriculum offered to this public, with an emphasis on the importance of gynecological health for these future health professionals who will be responsible for caring the population.

CONCLUSIONS

It was observed that the students had adequate knowledge about the purpose and timing of the exam, but they had gaps in their knowledge about the precautions to be taken before the exam. The students were found to have appropriate attitudes about the need to have the exam and when they should go for it. However, there was a low level of adherence among university students to preventive examinations.

It is clear that there are gaps between the theoretical knowledge of the students and its application in their daily lives. As future health professionals, the students must not only have the knowledge and attitude to carry out the test, but also adhere to the practice, given their understanding of its importance, which becomes fundamental when providing efficient, quality care to the population.

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The authors declare no conflicts of interest.

CONTRIBUTIONS

Hilderlânia de Freitas Lima, **Liene Ribeiro de Lima** and **Anne Fayma Lopes Chaves** contributed to the preparation and design of the research; the collection, analysis and interpretation of the data; and the writing and revision of the manuscript. **Igor Cordeiro Mendes** and **Camila Chaves da Costa** contributed to the preparation and design of the research; data collection, analysis and interpretation. **Huana Carolina Cândido Moraes** contributed to the preparation and design of the research and drafting and revising the manuscript. **Jairo Domingos de Moraes** and **Ana Izabel Oliveira Nicolau** contributed to collecting, analyzing and interpreting the data and to writing and revising the manuscript.

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