

# Skills of Nursing Academics in Collecting the Preventive Exam for Uterine Cervical Cancer

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**Keywords—** Nursing students, Competency-based education, Onoptic cytology.

**Abstract—** Objective: The general objective of this study was to identify the level of competence in the collection of preventive cervical cancer examination among nursing students attending the supervised internship. Method: The study presented a quantitative approach conducted in 2019. Participants were 80 students of the 9th semester of the Nursing Course of the University of the Amazon, during three months of supervised internship in Primary Health Care. Twenty-one competencies were analyzed in the collection of the oncoprophotic colpocytology exam. From the application of a checklist during the supervised internship, each student was evaluated five times. Results: The evolution of the minimum competencies of the nursing student during the five collections of the onoptic cytology examination was notorious. From the third collection, it was observed that 41.3% of the students with unsatisfactory performance, there was a reduction to 5% in the fourth collection. In the fifth collection of the exam, 92.5% of the students with the satisfactory exam technique. Conclusion: Therefore, it is suggested the implementation of the checklist during the collection of the onoptic cytology exam in the supervised stage, that each student has the opportunity to make at least five collections.

## I. INTRODUCTION

In the Northern region of Brazil, the estimate for the most prevalent types of cancer in males are prostate (30/100 thousand), stomach (11/100 thousand), lung (8/100 thousand), colon and rectum (4/100 thousand). thousand). In females, the most prevalent are the cervix (25/100 thousand), breast (19/100 thousand) and colon/rectum (7/100 thousand). [1]

The high prevalence and the growing morbidity and mortality rate of cervical cancer make it a global public health problem. Thus, Brazil presents a similar panorama of developed and developing countries [2].

The test for early detection of cervical cancer is oncotoc colpocytology. The exam receives various terminologies such as oncotoc cytology, oncological cytology, exfoliative cytology and Pap Test. It is a test developed by the physician George Papanicolaou for the identification, under the microscope, of atypical, malignant or pre-malignant cells of the uterine cervix [3].

The oncotoc colpocytology exam can be performed by the professional Nurse. In the curriculum guideline of the Nursing course, it is necessary that the student has the ability to perform the Pap smear exam. During the supervised internship of the ninth semester of the nursing

course, there was a need for an evaluative tool to assess the competence of the nursing student at the time of carrying out the collection of the oncotic cytology exam.

In order to optimize the available resources, the Pap smear test should be offered to women between 25 and 65 years old and to those who started sexual activity before this age group, with emphasis between 45 and 49 years old, period that corresponds to the peak incidence of precursor lesions and precedes the peak of mortality from cancer. After two negative annual collections, the periodicity may be three-yearly, allowing the identification of cases in which a false negative result may have occurred. However, cervical cancer is among the most common cancers in women, occupying, respectively, the second and third places in the world and in Brazil. [4]

Wanda Horta, in 1979, defined nursing as a science and art of assisting human beings in meeting their basic human needs, of making them independent from this assistance through education, of recovering, maintaining and promoting their health, counting with the collaboration of other health professionals. [5]

For nurses to acquire the competence to perform the preventive examination through oncotic colpocytology, they must have, during graduation, through supervised internship, the opportunity to practice such competence. The best way to improve the ability to collect the exam with quality is in patients. An instrument to assess the collection of the exam is the checklist. The use of a structured instrument, such as a checklist, for assessment during the exam helps the teacher to focus his attention on specific skills, increasing the accuracy in detecting failures. In addition to serving as an assessment tool, these lists serve as a learning tool, offering objective elements to give feedback to students, helping them to reinforce their strengths and correct their deficiencies. [6]

The internship comprises the period in which the student has the chance of personal and professional growth, through the development of experienced actions, critically and reflexively, providing greater security to the student at the end of the undergraduate course and beginning of professional practice. [7] In line with this, it is noteworthy that the training of a professional for the labor market should not be restricted to theory only, but also to the student's knowledge of their future space of action. Thus, the supervised internship gives the student the opportunity to expand their knowledge, associating theory with practice. [8]

Nursing students must have theoretical and practical content developed during training, it is mandatory to include supervised internship in hospitals, clinics, basic network of health services and community in the curriculum

of Undergraduate Nursing. According to the National Curriculum Guidelines for the Undergraduate Nursing Course, the internship must consist of a minimum workload of 20% of the total workload of the Undergraduate Nursing Course, carried out in the last two semesters of the course with mandatory effective participation of nurses services in which the referred internship is developed. With the CNE/CES opinion n° 213/2008, a minimum duration of 5 years was established, comprising a workload of 4000 hours/class. Considering this minimum total workload and the obligation of 20% of the total workload, a minimum workload of 800 hours is foreseen for the supervised internship. [9]

Thus, this study aims to identify the level of competence in collecting the preventive exam for cervical cancer among nursing students attending the supervised internship.

## II. METHOD

The study was analytical, with a quantitative approach and was developed in Basic Health Units (BHU) located in the District of Icoaraci, municipality of Belém, being the BHU Paracuri 1, BHU Tenoné, BHU Parque Guajará and BHU Eduardo Angelim. In these places, the supervised internships of the higher education institution take place. The location was, specifically, in the collection room for the Pap smear exam at the BHU, located in the city of Belém.

Participants were students from the Nursing Course of a private university, enrolled in the 9th semester in the supervised internship module in Primary Care and of both sexes. Patients who underwent the Pap smear exam in Primary Care and who accepted to be part of the research participated. There were 100 students enrolled in the 9th semester, but only 80 students met the research inclusion criteria. The research was carried out with students from the Nursing Course of a private university, enrolled in the 9th semester in the supervised internship module in Primary Care, of both genders, from 18 years of age and who accepted to be part of the research.

The students were invited to participate in the research at the beginning of the internship that took place in the Basic Health Units and were given an explanation on how to carry out the collection of the Pap smear test in the patient. Data collection was carried out in the second half of 2019, after approval by the Research Ethics Committee of the Centro Universitário do Pará (CESUPA).

During the examination performed by the nursing student, the preceptor used an evaluative instrument, the checklist, to assess the level of competence in collecting the preventive exam for cervical cancer among nursing students attending the supervised internship at the BHU. Data

collection was performed using an evaluative instrument in the form of a checklist, the instrument for evaluating the collection technique of the Pap smear test was based on the validation of the correct technique established by the Brasil's Ministry of Health Manual of 2002. The students were informed who would go through the evaluation process at the beginning of the internship with the presence of the preceptor. The preceptor could at any time intervene in the execution of the exam collection so as not to harm the exam result. Thus, effectively guaranteeing a quality result. To assess the level of competence in the collection of the preventive exam for cervical cancer among nursing students attending the supervised internship, a descriptive analysis of the data was performed.

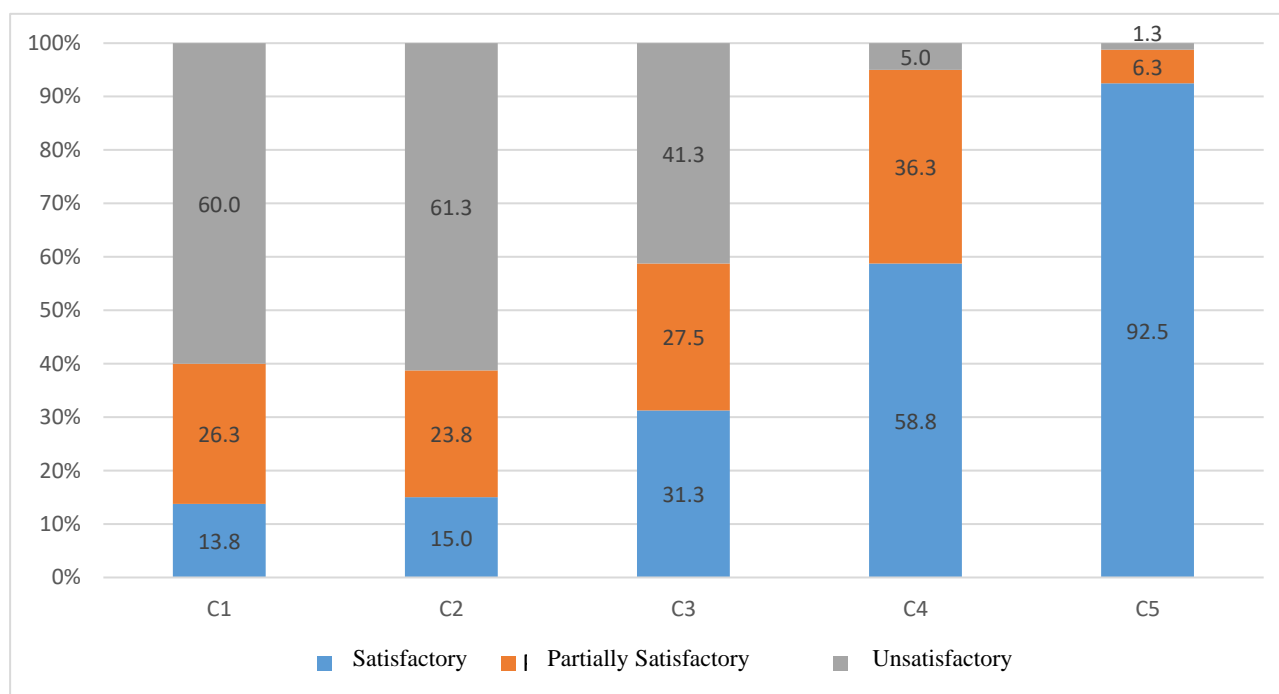
The organization and tabulation of the results was performed in an Excel spreadsheet and statistical analyzes in the Bioestat 5.3 program. To assess the existence of an association between collections and the variables sex, age, technical level and previous experience, the chi-square test and G test were applied. And the chi-square test was used to assess whether there was a significant change in the global concept of each participant, during the five evaluations. Throughout the work, a significance level of 5% was used. The total population is 100 students; of this total, 80 students participated in the survey, as they met the

inclusion criteria. A descriptive analysis of all items evaluated in the checklist was performed and the Wilcoxon test was used to assess whether there was a significant change in the concept of each participant in the five assessments that each one was submitted.

### III. RESULTS

The study population consisted of 80 students regularly enrolled in the Nursing Course of a higher education institution in the year 2019 of the ninth academic semester. The student who achieved a grade between 9 and 10 was considered satisfactory, with a grade of 10 for the student who got the 21 items on the checklist of all skills right; partially satisfactory, the student with a grade from 6 to 8.99 and unsatisfactory the student with a grade below 5.99. Some manual skills of greater relevance in performing the collection were given greater weight, such as item number 14 (Turned 360° to scrape the cellular material from the cervical mucosa); item number 16 (Turned 360° to collect the mucosal material from the neck portion); and item number 18 (The collected material was uniformly spread across the entire slide).

*Graph 1 - Evaluation of nursing students during the five collections of the Pap smear exam during the 3 months of supervised internship.*



Note: \* $p < 0.05$  (Test G –  $p < 0.0001$ ) Source: Research data.

Graph 1 shows the evolution of the minimum competences of the nursing student during the five

collections of the Pap smear exam. After the third collection, it was observed that 41.3% of unsatisfactory

students decreased to 5% in the fourth collection. In the fifth exam collection, 92.5% of the students reached the satisfactory exam technique.

*Table 1 - Checklist assessment by abilities during the five collections of the Pap smear exam during the 3 months of supervised internship.*

	Collect 1		Collect 2		Collect 3		Collect 4		Collect 5		P Value
	1	%	2	%	3	%	4	%	5	%	
1 – He behaved in a kind way and made himself available to the patient;											
No - 0		16.3		11.3		2.5		3.8		1.3	0.0005 <sup>a</sup>
Yes - 0.1		83.8		88.7		97.5		96.3		98.8	
2- Washed hands according to proper technique;											
No - 0		36.3	c	32.4		31.3		5.0		0.0	< 0.0001 <sup>a</sup>
Yes - 0.2		63.8		67.6		68.7		95.0		100.0	
3 - Put on a pair of clean gloves;											
Yes - 0.2		100.0		100.0		100.0		100.0		100.0	-
4 - Observed the external genitalia for apparent abnormalities and separated;											
Yes - 0.5		100.0		100.0		100.0		100.0		100.0	-
5 - Gently parted labia minora and continued visual inspection;											
No - 0		43.8		43.8		20.0		1.3		0.0	< 0.0001 <sup>a</sup>
Yes - 0.5		56.3		56.2		80.0		98.8		100.0	
6 - Knew how to choose the size of the speculum;											
No - 0		65.0		67.6		50.0		26.3		6.3	< 0.0001 <sup>b</sup>
Yes - 0.25		35.0		32.4		50.0		73.8		93.8	
7- Parted the little lips;											
No - 0		6.3		2.5		2.5		3.8		1.3	0.6699 <sup>a</sup>
Yes - 0.25		93.8		97.5		97.5		96.3		98.8	
8- Inserted the speculum with pin downwards;											
No - 0		53.8		41.3		32.4		8.8		0.0	< 0.0001 <sup>a</sup>
Yes - 0.5		46.3		58.7		67.6		91.3		100.0	
9 - Held the speculum in his left hand and rotated the pin in his right;											

No - 0	65.0	62.5	50.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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19- Immediately put in the fixer;						
No - 0	63.8	61. 3	37. 5	1.3	0.0	< 0.0001 <sup>a</sup>
Yes - 0.5	36.3	38. 8	62. 5	98.8	100.0	
20- Removed the closed speculum;						
No - 0	55.0	43. 8	40. 0	26.3	8.8	< 0.0001 <sup>b</sup>
Yes - 0.25	45.0	56. 3	60. 0	73.8	91.3	
21 - Cleaned the perineal area with gauze.						
No - 0	17.5	22. 5	17. 5	17.5	15.0	0.8041 <sup>b</sup>
Yes - 0.25	82.5	77. 5	82. 5	82.5	85.0	

**Note:** \*p < 0, 05 (<sup>a</sup> Test G / <sup>b</sup> chi-square test – p < 0,0001). **Source:** Research data.

Table 1 shows the execution of the technique performed by the oncotic colpocytology exam by the nursing student in the supervising internship, describing the average performance in each of the five times it was performed. It was considered in this analysis as (Yes) when the student performed the technique and (No) when the student did not

perform the technique. There was statistical significance in some technical skills during the course of collections, as shown in the table above. Some skills have already started with 100% satisfaction percentage; in this way, it is not possible, the growth of correct answers (skills 3 and 13).

*Table 2 - Analysis of the percentage of execution of the correct technique for cervical cancer preventive collection, in relation to the sex of the performer.*

		Female		Male		
		n=63	%	n=17	%	P Value
Collect 1						
	Unsatisfactory	36	57.1	12	70.6	0.4653 <sup>a</sup>
	Partially Satisfactory	17	27.0	4	23.5	
	Satisfactory	10	15.9	1	5.9	
Collect 2						
	Unsatisfactory	36	57.1	13	76.5	0.0464 <sup>a</sup>
	Partially Satisfactory	15	23.8	4	23.5	
	Satisfactory	12	19.0	0	0.0	
Collect 3						
	Unsatisfactory	26	41.3	7	41.2	0.0598 <sup>a</sup>
	Partially Satisfactory	14	22.2	8	47.1	
	Satisfactory	23	36.5	2	11.8	
Collect 4						
	Unsatisfactory	3	4.8	1	5.9	0.1077 <sup>a</sup>



Collect 5	Partially Satisfactory	19	30.2	10	58.8	
	Satisfactory	41	65.1	6	35.3	
	Unsatisfactory	1	1.6	0	0.0	0.8495 <sup>a</sup>
	Partially Satisfactory	4	6.3	1	5.9	
	Satisfactory	58	92.1	16	94.1	

**Note:** \*p < 0.05 (<sup>a</sup> Test G – p < 0.0001). **Source:** Research data.

Table 2 shows the reality of gender distribution in the Nursing course, where there is a significant predominance of females (78.75% were women). There were no statistically significant differences between the two groups, with males showing a significant increase in competence, going from 5.9% satisfactory in the first collection to 94.1% in the fifth collection.

#### IV. DISCUSSION

The nursing education process in contemporary times points to professional training for the exercise of general and specific skills, in addition to skills based on the conceptions of the student as the subject of their training process, the articulation between theory and practice, the diversification of learning scenarios, active methodologies, articulation of research with teaching and extension, curriculum flexibility, interdisciplinarity, incorporation of complementary activities, learning assessment, monitoring process, evaluation and management of the course, as well as completion of the course. [9]

General and specific competences can be more easily achieved through active methodologies, with the student as the subject of their learning, capable of "learning to learn", and the teacher as a facilitator of this learning. [10] Within these competences for the nursing student, we have the collection of oncotic cytology, which is an exam that uses a manual method, performed by nurses and physicians, which allows the identification of cells suggestive of pre-invasion to malignant lesions, through multichromic staining of slides containing exfoliated cervical cells. The exam is part of the Health for Women in Primary Care program promoted by the Unified Health System. [11]

The current study has shown that the competency-based assessment process is dynamic. During the five applications of the checklist in the collection of the oncotic cytology exam, the performance that was initially unsatisfactory in the first collection was evidenced and that in the fifth collection it was considered a satisfactory percentage. This evolution was notorious after the third collection, when it

was observed that 41.3% of unsatisfactory students rose to 5% in the fourth collection. In the fifth exam collection, 92.5% of the students reach the satisfactory level. The supervised curricular internship is a modality of practical teaching that provides the transition from the academic world to the world of work, being a privileged space for contact with the reality of services and work in health. [12]

The supervised internship provides students with greater knowledge based on experiences in different practice scenarios. He further points out that the skills acquired by academics increase as the internship period progresses, their perception changes, and they feel more confident in their communication skills and techniques. [12]

In the present study, the first skill (behaves kindly and puts oneself at the patient's disposal) appeared as a skill that showed growth with the increase in the number of individual collections. As it is an attitudinal skill, it was expected that all students had an adequate behavior, from the beginning, as they were in the final period of the undergraduate course and had already heard a lot about humanization.

The students arrived with a partially satisfactory level and throughout the five collections, they reached the satisfactory level, showing that the humanization capacity can be improved in each service and providing a link of trust between the student and the user. The study shows that the academic does not arrive with 100% of the attitudinal ability ready in the internship field, despite this being worked throughout the academic life. It also shows the importance of humanized contact being worked on in the supervised internship, so that the academic knows how to work and develop this attitudinal skill and become an empathetic professional.

The nurse must always act in a humane way during the service to the user, paying attention to health education and consequently making these women look for the Health Unit more, increasing the demand and coverage of preventive exams. [13] Since the creation of the National Humanization Policy - NHP, humanization has been constantly exercised within the scope of the SUS, seeking

to achieve quality care. In addition, the union between public health and higher education schools increasingly improves the provision of services as partnerships and programs are created between the Ministry of Education and the Ministry of Health. [14]

The Undergraduate Nursing course has curricular guidelines established by the National Council of Education (NCE), which has the function of verifying whether educational legislation is being effectively exercised, ensuring that teaching in institutions is of quality, in addition to ensuring that the population participate in improving education. A 2001 NCE resolution establishes a plan for the curriculum designs of the Nursing course, in order to govern the profile of graduates during their professional training. Therefore, this future nursing professional must have a humanistic education based on the ethical principles of the profession. [15]

The reception, in the daily practice of services, is expressed in the relationship established between the professional and the user through attitudes such as: the professional introducing himself, calling the users by name, informing the conduct and the procedures that will be carried out and adopted, listening and valuing what is said by them, guaranteeing privacy and confidentiality, among others. It does not consist of a step in the process, but an action that must take place in all places and moments of health care. [16]

Other manual skills observed in the study, such as rotating the spatula and cytology brush 360 degrees, which are eminently technical skills, started with a low percentage. The manual ability to rotate the spatula 360° in the first collection was 17.5% satisfactory, but in the fifth collection, this percentage was 93.8%. The manual ability to rotate the cytological brush 360° degrees starts in the first collection with a percentage of 38.8% and ends in the fifth collection, with a rate of 90% correct.

The manual ability to immediately put in the fixative in the first collection was 36.3% and in the fifth collection with all students reached this ability, in a total of 100%. These skills are important, because if poorly performed they can affect the result of oncotoc colpopcytology, giving a false positive for precursor lesions of cervical cancer. One study shows that the quality of oncotoc Pap smears performed by nurses was above the national average. [17]

Data show that cervical cancer is the fourth most common type of cancer in women worldwide, with approximately 528,000 new cases annually, 85% of which in developing countries. In 2012, this cancer was responsible for 266,000 deaths worldwide, of which about

90% occurred in developing countries. In the State of Pará, the cancer that most affects women is cervical cancer. [1]

These data are important to show the relevance of a well-executed exam, that is, the quality of oncotoc cytology exam collection directly influences patient survival. To maintain this quality, the academic's theoretical knowledge associated with the experiences acquired with the supervised internship generate skills, that is, a know-how. However, knowledge and know-how are not enough, there is a need to want to do, a preponderant factor in defining the praxis of the professional. [18] A study carried out in Mexico shows that medical professionals are more qualified and knowledgeable in performing the oncotoc cytology exam compared to trainees. [19]

Teaching strategies need to make teachers lead the student to achieve skills, understanding and practicing learning to know, learning to do and learning to be in nursing care, which can be used problem-based and student-centered learning, interactive teaching-learning strategies, guided by practice and effective in learning critical thinking, skills and abilities both for clinical decision making and for discussion of clinical cases, [20] situations with simulated patients and the formation of a critical-creative professional, rescuing their sensitivity and allowing the construction of meanings and interpretations that drive this process. [21]

Table 2 shows the reality of the Nursing course, with a predominance of females in the number of students. The hypothesis was raised that the male nursing student could have less ability due to the exposure of the female genital organ, being embarrassed when performing the exam. In this study, there was no difference between females and males at the end of the five collections of the oncotoc cytology exam.

The second collection, the unsatisfactory number is for males, with an improvement from the third to the fourth collection and arriving in the fifth collection with 0% of unsatisfactory. The characterization of the majority female sample in the research corresponds to other studies. Studies show nursing workers worldwide and in Brazil the female figure has always been very present. [22]

However, it was not possible to find in scientific articles, discussions about the difference between the female and male gender in the specific competence of collecting the oncotoc cytology exam. A study in Taiwan that suggests that male nurses should be counseled about the importance of Pap smear testing for detecting cervical cancer and also about strategies to reduce pain and embarrassment during the exam. And nurses with less negative attitudes and experiences related to oncotoc cytology exams serve as an



example to persuade women to take exams, thus increasing the acceptance rate of exams in Taiwan. [23] In another study carried out in Australia, it states that patients prefer a welcoming environment and that the sex of the professional is not a barrier for the patient to be able to undergo the exam. [24]

## V. CONCLUSION

In the present study, the competences of nursing students to perform the Pap smear test during the supervised internship period in Primary Care were evaluated. The evolution of the students during the exam collections was notorious. Some manual skills in the first collection were unsatisfactory in the proper execution of the exam, but with the course of other collections, the student can evolve, reaching a satisfactory level in the fifth collection. Thus, one can notice a significant improvement in manual and attitudinal skills. Although the Nursing course has a predominance of females, there was no difference in performance in the skills of performing the exam between males and females. The same was found regarding the student's age, having or not having a technical nursing course and having or not previous experience in cytological collections.

The supervised internship performed during undergraduate nursing is a moment of intense learning, as the academic experiences real situations in the day-to-day work of nurses, at all levels of care.

Given these findings, it can be inferred that the supervised internship of the nursing course to collect the oncotic cytology exam constituted an efficient way of learning.

Periodic curriculum reviews that follow the specific needs of the course are necessary to better train academics. It is important to assess the student's needs in the teaching-learning process, giving them the opportunity to perform at least five oncotic cytology collections, ensuring the development of their skills during the collections, acquiring minimal skills for a satisfactory performance.

## REFERENCES

- [1] Brasil. Organização Unidas do Brasil. Disponível em: <https://nacoesunidas.org/oms-cancer-mata-88-milhoes-de-pessoas-anualmente-no-mundo/> Acesso em: 01 abril. 2018.
- [2] Lopes, P; Lopes, A. A importância do exame citopatológico nas unidades básicas de saúde. *Revista Inter Saúde*, v. 1, n. 3, p. 129-140, 2020.
- [3] Santos, SRS; Álvares, ACM. Assistência do Enfermeiro na Prevenção do HPV. *Revista de Iniciação Científica e Extensão*, v. 1, n. 1, p. 28-31, 2018.
- [4] Lima, BGS; Lopes, IMRS. Aconselhamento em saúde para maior adesão aos exames de prevenção do câncer do colo de útero das usuárias da UBS-Pirajá do município de Caxias-MA.
- [5] Dias, FA. et al. Atenção primária à saúde do idoso: modelo conceitual de enfermagem. *Cogitare Enfermagem*, v. 22, n. 3, 2017.
- [6] Onofre, MF; Vieira, RD; Bueno, GH. Principais fatores que dificultam a adesão ao exame de citologia oncológica: Uma Revisão de Literatura. *Enfermagem Revista*, v. 22, n. 2, p. 231-239, 2019.
- [7] Lima, TC et al. Estágio curricular supervisionado: análise da experiência discente. *Revista Brasileira de Enfermagem*, v. 67, p. 133-140, 2014.
- [8] Evangelista, DL; Ivo, O.P; Contribuições do estágio supervisionado para a formação do profissional de enfermagem: expectativas e desafios. *Rev Enferm Contemp*. 2014.
- [9] Cruz, CC. Princípios orientadores da docência em enfermagem nos estágios da educação de nível médio. Tese de Doutorado. Universidade de São Paulo.
- [10] Lara, EMO et al. O professor nas metodologias ativas e as nuances entre ensinar e aprender: desafios e possibilidades. *Interface-Comunicação, Saúde, Educação*, v. 23, 2019.
- [11] Oliveira, JS; Cavalcante Filho, JB. Avaliação da atenção pré-natal na rede básica de saúde em Sergipe-programa nacional de melhoria do acesso e da qualidade da Atenção Básica (PMAQ-AB). *Revista Rede de Cuidados em Saúde*, v. 15, n. 1, 2021.
- [12] Esteves, LSF et al. O estágio curricular supervisionado na graduação em enfermagem: revisão integrativa. *Revista Brasileira de Enfermagem*, v. 71, p. 1740-1750, 2018.
- [13] Machado, LB et al. Atuação do enfermeiro na prevenção e detecção do câncer do colo uterino para a melhora de vida de mulheres. *Research, Society and Development*, v. 10, n. 7, p. e30910716648-e30910716648, 2021.
- [14] Mardock, ARM. Política de Humanização do SUS na Formação Médica no Interior da Amazônia. Tese de Doutorado. Universidade Federal do Oeste do Para. 2018.
- [15] Brasil. Ministério da Educação. Conselho Nacional de Educação. Parecer CNE/CES Nº: 33/2007. Consulta sobre a carga horária do curso de graduação em Enfermagem e sobre a inclusão do percentual destinado ao Estágio Supervisionado na mesma carga horária. *Diário Oficial da União* 27 ago 2007. Disponível em: [http://portal.mec.gov.br/cne/arquivos/pdf/2007/pces033\\_07.pdf](http://portal.mec.gov.br/cne/arquivos/pdf/2007/pces033_07.pdf). Acesso em 09 ago 2019
- [16] Andrade, PP et al. Percepção de usuárias sobre a prática do acolhimento na coleta de preventivo de câncer de colo de útero. *Inova Saúde*, v. 9, n. 2, p. 124-142, 2020.
- [17] Rennie, D. et al. A team care model of cervical screening in a general practice. *Aust Fam Physician*. 2015 Jul; v. 44 n. 7: 515-8.
- [18] Tanus, GF. Desafios e perspectivas para a formação do profissional da informação. *scholar.archive.org*. 2017.
- [19] Gutiérrez, ESO. et al. [Performance of health staff in Papanicolaou test: theoretical knowledge and practical

- implementation]. *Ginecol Obstet Mex.* Jan 2014; v. 82 n. 1: 9-19.
- [20] Souza, JDF et al. O ensino crítico reflexivo para a tomada de decisão na formação do enfermeiro: uma questão de competências. 2017.
- [21] Silveira, NIR et al. Desenvolvimento de cenários de simulação clínica para o aprendizado ativo na graduação em enfermagem. 2021.
- [22] Silva, JDF. O enfermeiro no exercício de uma profissão predominantemente feminina: uma revisão integrativa. 2018.
- [23] Chen, SL.et al. Factors Predicting Nurse Intent and Status Regarding Pap Smear Examination in Taiwan: a Cross-sectional Survey *Câncer Asiático Pac J Prev.* 2016; v. 17, n. 2: 165-70. Available: <https://www.ncbi.nlm.nih.gov/pubmed/26838204>
- [24] Peters, K. Reasons why women choose a medical practice or a women's health centre for routine health screening: worker and client perspectives. *J Clin Nurs.* Sep. 2010; 19 (17-18): 2557-64. doi: 10.1111 / j.1365-2702.2010.03245.x. Available: <https://www.ncbi.nlm.nih.gov/pubmed/20920081>. Acesso em fev. 2020.