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The knowledge of nursing students about cervical cancer

O conhecimento dos discentes de enfermagem acerca do câncer de colo do útero

El conocimiento de los estudiantes de enfermería sobre el cáncer de cuello uterino

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Abstract: Objective: to analyze the knowledge of nursing undergraduate students about the risk factors and prevention of cervical cancer. **Method**: a cross-sectional, quantitative study, carried out with 112 nursing students from a public higher education institution in Northeast Brazil. Data collected in June 2017, using a structured questionnaire, with bivariate analysis between knowledge about the risk factors and prevention of cervical cancer and the sociodemographic, behavioral and academic variables. **Results:** there was an association between the undergraduate students' knowledge about risk and prevention factors and their participation in extracurricular activities, semester and assistance to women with an emphasis on cervical cancer. **Conclusion:** It is emphasized the need to improve the approaches to this theme in the undergraduate nursing course through the participation of students in extracurricular activities.

Descriptors: Education, Nursing; Cervix Uteri; Risk Factors; Disease Prevention; Nursing

Resumo: Objetivo: analisar o conhecimento dos discentes do curso de enfermagem acerca dos fatores de risco e prevenção do câncer de colo do útero. **Método:** estudo transversal, quantitativo, realizado com 112 discentes do curso de enfermagem de uma instituição pública de ensino superior no Nordeste do Brasil. Dados coletados em

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junho de 2017, utilizando questionário estruturado, com análise bivariada entre conhecimento sobre os fatores de risco e prevenção do câncer de colo do útero e as variáveis sociodemográficas, comportamentais e acadêmicas. **Resultados:** verificou-se associação entre o conhecimento acerca dos fatores de risco e prevenção e a participação dos discentes em atividades extracurriculares, período de curso e assistência à mulher com ênfase no câncer de colo do útero. **Conclusão:** salienta-se a necessidade de aprimoramento das abordagens dessa temática no curso de graduação em Enfermagem por meio da participação dos alunos em atividades extracurriculares.
Descritores: Educação em Enfermagem; Colo de Útero; Fatores de Risco; Prevenção de Doenças; Enfermagem

Resumen: **Objetivo:** analizar el conocimiento de los estudiantes de enfermería sobre los factores de riesgo y prevención del cáncer de cuello uterino. **Método:** estudio transversal, cuantitativo, realizado con 112 estudiantes de enfermería de una institución pública de educación superior en el noreste de Brasil. Los datos fueron recogidos en junio de 2017, a través de un cuestionario estructurado, con análisis bivariado entre el conocimiento sobre los factores de riesgo y prevención del cáncer de cérvix y las variables sociodemográficas, comportamentales y académicas. **Resultados:** comprobose asociación entre el conocimiento sobre factores de riesgo y prevención y la participación de los estudiantes en actividades extracurriculares, período de curso y asistencia a mujeres con énfasis en cáncer de cuello uterino. **Conclusión:** se enfatiza la necesidad de mejorar los enfoques de esta temática en el grado de enfermería a través de la participación de los estudiantes en las actividades extracurriculares.
Descriptores: Educación en Enfermería; Cuello del Útero; Factores de Riego; Prevención de Enfermedades; Enfermería

Introduction

Cervical cancer (CC) is one of the leading causes of death among women worldwide.[1] In 2018, this disease caused 311 thousand deaths, mainly in low and middle income countries.[2] In Brazil, this cancer occupies the third position among the most incident tumors in women, and it is estimated that for each year of the 2020/2022 triennium the incidence is 16,590 cases of this cancer, with an estimated risk of 15.43 cases per 100 thousand women.[3]

The main risk factor for the development of CC is infection by the Human Papiloma Virus (HPV), present in 99.7% of cases.[4] Other factors that can influence the regression or evolution of the infection are: immunosuppression, smoking, parity, sexually transmitted co-infections and behavioral factors, which can be prevented, which is why they are targets of strategies for primary and secondary prevention actions.[1,4-5]

Primary prevention is related to reducing the risk of contagion with HPV. Thus, it is included as health actions: the vaccination of adolescents against the aforementioned virus, the

use of condoms in all sexual relations and health education actions for the population, highlighting the risk factors.[1]

Secondary prevention, in turn, includes early diagnosis actions by identifying, in a timely manner, signs and symptoms related to CC, such as the presence of intermenstrual bleeding, bloody discharge, pelvic pain and the detection of precursor lesions through screening, using the oncotic cytopathology of women between 25 and 64 years old with an active sex life.[1,4-6]

For the development of CC prevention actions, it is necessary that health professionals know the main risk factors and develop actions that guarantee health promotion, early diagnosis and effective treatment.[7] Therefore, it is essential that nurses are able and trained to carry out an appropriate approach for these women, in line with the guidelines for prevention.[8]

To this end, the nurse must be able to fully assist women, carry out nursing consultations and clinical examination, evaluate laboratory test results, perform palliative care and develop permanent education activities for all team members.[4,9]

In view of the role of nurses in the face of CC prevention actions, it is important to note their generalist professional training and focusing on humanization and health education,[10] making them capable of contributing to the promotion of the reduction of risk factors for the CC and with the strengthening of primary and secondary prevention actions.

In the context of professional training, it is emphasized that, according to international studies,[11-12] the knowledge of nursing students is still insufficient about the prevention of CC. This fact is worrying, considering that nurses, since graduation, need to evaluate themselves and reflect on their role as a health professional, in order to develop care plans based on the needs of the population.[13] Therefore, the relevance of promoting the students' practical experiences during graduation is highlighted, aiming to approximate their role as a health professional.[14]

In this context, the theme of this research becomes relevant, as the cited studies cited mention that the undergraduate students do not have sufficient knowledge about the forms of

CC prevention, that the nurse academic education is the foundation for their professional practice and that the nurse has fundamental role in the promotion and protection of women. It should be noted that, in the literature reviewed, few studies have analyzed the interface of nursing education and the risk and prevention factors of that type of cancer, especially when it comes to the specific knowledge acquired during graduation on this topic.[15-17]

In view of this scenario, the question has been raised: what is the knowledge of nursing students about the risk factors and primary and secondary prevention of CC? Thus, this study aimed to analyze the knowledge of nursing students about the risk factors and prevention of cervical cancer.

Method

This is a cross-sectional study, with a quantitative approach, produced from a section of scientific initiation research, which was entitled “Health care with a focus on cervical cancer: knowledge of nursing undergraduate students”. The population was composed of undergraduate students of the nursing course at a Federal University in Northeast Brazil. All students enrolled in the course, of both genders, aged 18 years or over were included. Students who had missed classes on the days of data collection were excluded, in addition to those who were participating in the preparation and organization of this study, totaling 112 participating students.

Data collection was carried out in June 2017, in the respective classrooms, according to the student's semester. A structured questionnaire was used, elaborated based on guides and guidelines for the control of the CC and composed of the axes: personal information, academic information, general and specific knowledge about CC.

The dependent variable was the students’ knowledge about CC, assessed from three perspectives: risk factors, primary prevention and secondary prevention of CC. The independent variables were divided into: 1) sociodemographic and behavioral: sex (female; male), age group

(18-23;> 23 years old), beginning of sexual activity (yes; no), active sex life (yes; no); and 2) academic: participation in extracurricular activities during graduation (yes; no), semester (first half; second half) and assistance to women during graduation, with an emphasis on CC (yes; no).

In relation to the variable "participation in extracurricular activities during graduation", monitoring activities in undergraduate curriculum components were considered, the Education Program through for Work Health (PET-Saúde), participation in academic leagues, in research extension and scientific initiation projects.

The variable "semester" was categorized in the first half and second half of the course, including in these categories students from the first to the fourth semester and from the fifth to the tenth semester, respectively. Bearing in mind that the Women's Health curricular component in the higher education institution where the study was conducted is taught in the fifth semester, this variable was categorized, aiming to classify students as those who did not contact the topic (first half of the course) and those who contacted the theme (second half of the course).

Regarding the "assistance to women with an emphasis on CC", students who had or did not experience direct health care practices during graduation were evaluated, through nursing consultations for this specific public, health education and actions in projects. For data tabulation and analysis, the statistical software Epi InfoTM version 7.2.2.2 was used. The data were tabulated in double entry and were organized in tables with absolute and relative frequencies. Pearson's chi-square test was used for bivariate analysis, and Fisher's exact test was used for results with expected count less than five, with significance level $\alpha = 0.05$. The discussion of the data was carried out in the light of the specific literature on the CC.

The research was approved on May 30, 2017 by the Research Ethics Committee of the Hospital Universitário Alcides Carneiro, under opinion number 2.091.521 and CAAE nº 68682017.5.0000.5182. After the project was approved, the students expressed their willingness to participate in this study by signing the Free and Informed Consent Form.

It should be noted that throughout the research and writing process of this article, the precepts contained in Resolution 466/2012 of the National Health Council were respected. The results of this study were returned to the students through lectures and guidance on the theme from the weaknesses identified.

Results

112 undergraduate students participated in this study, of which the largest proportions were: female sex (76.8%), age group between 18 and 23 years old (76.8%), students who started their sexual life (69.4%) and who had an active sex life (55.4%). As for academic training, the majority belonged to the second half of the course (62.5%), had participated in some extracurricular activity (75.9%) and had provided assistance to women with an emphasis on CC (51.8%).

There was no statistical association between sociodemographic and behavioral variables (gender, age group, beginning of sexual activity, active sexual life) and specific knowledge about risk factors and forms of primary and secondary prevention of CC. However, a statistically significant association was observed between knowledge related to risk factors and academic variables of students, which is shown in Tables 1 and 2.

Table 1 - Association between knowledge about HPV infection and smoking and students' academic variables. Campina Grande, Paraíba, Brazil, 2017.

Variables	HPV infection				p	Smoking				p-value
	Correct		Incorrect			Correct		Incorrect		
	n	%	n	%		n	%	n	%	
Participation in extracurricular activities										
Yes	80	94,1	05	5,9	1,000*	20	23,5	65	76,5	0,586
No	26	96,3	01	3,7		05	18,5	22	81,5	
Semester										
First half	36	85,7	06	14,3	0,002*	09	21,4	33	78,6	0,860
Second half	70	100	-	-		16	22,9	54	77,1	
Assistance to women with an emphasis on CC										
Assisted	58	100	-	-	0,001*	12	20,7	46	79,3	0,667
Never assisted	48	88,9	06	11,1		13	24,1	41	75,9	

*Fisher' exact test.

Table 2 - Association between knowledge about the multiplicity of sexual partnerships and the early onset of sexual life and the students' academic variables. Campina Grande, Paraíba, Brazil, 2017.

Variables	Multiplicity of sexual partnerships				p	Early onset of sexual life				p-value
	Correct		Incorrect			Correct		Incorrect		
	n	%	n	%		n	%	n	%	
Participation in extracurricular activities										
Yes	63	74,1	22	25,9	0,004	25	29,4	60	70,6	0,070
No	12	44,4	15	55,6		03	11,1	24	88,9	
Semester										
First half	19	45,2	23	54,8	<0,001	05	11,9	37	88,1	0,019
Second half	56	80,0	14	20,0		22	31,4	48	68,6	
Assistance to women with an emphasis on CC										
Assisted	45	77,6	13	22,4	0,013	15	25,9	43	74,1	0,653
Never assisted	30	55,6	24	44,4		12	22,2	42	77,8	

Regarding knowledge about HPV infection as a risk factor for CC, a statistical association was identified with the semester (p-value = 0.002) and with assistance to women with an emphasis on CC (p-value = 0.011). As for smoking, there was no statistical association with the variables analyzed. With regard to the multiplicity of sexual partnerships, the same association was found with participation in extracurricular activities (p-value = 0.004), semester (p-value <0.001) and assistance to women with an emphasis on CC (p-value = 0.013).

Concerning the early onset of sexual life as a risk factor, it was observed that there was a statistically significant association with the semester (p-value = 0.019). Despite the significant association for this variable and the number of correct answers among students in the second half of the course was relatively higher than those in the first half, it was noticed that the proportion of correct answers was low (31.4%), taking into account considering the previous knowledge in relation to this theme in the mentioned group of students.

The statistical association between knowledge related to primary prevention of CC and the students' academic variables is shown in Table 3.

Table 3 - Association between knowledge about primary prevention of CC and students' academic variables. Campina Grande, Paraíba, Brazil, 2017.

Variables	Use of condoms				p	HPV Vaccination				p-value
	Correct		Incorrect			Correct		Incorrect		
	n	%	n	%		n	%	n	%	
Participation in extracurricular activities										
Yes	69	81,2	16	18,8	0,699	76	89,4	09	10,6	0,190*
No	21	77,8	06	22,2		21	77,8	06	22,2	
Semester										
First half	29	69,0	13	31,0	0,020	34	81,0	08	19,0	0,173
Second half	61	87,1	09	12,9		63	90,0	07	10,0	
Assistance to women with an emphasis on CC										
Assisted	52	89,7	06	10,3	0,010	54	93,1	04	6,9	0,036
Never assisted	38	70,4	16	29,6		43	79,6	11	20,4	

*Fisher' exact test.

Regarding the knowledge of students from the perspective of primary prevention for CC, there was a statistical association between their knowledge of condom use and the semester (p = 0.020); and assistance to women with an emphasis on CC (p-value = 0.010).

Concerning HPV vaccination as a primary form of prevention for CC, there was a statistical association with assistance to women with an emphasis on CC (p-value = 0.036). No association was identified with the semester (p-value = 0.173), nor with participation in extracurricular activities (p-value = 0.190). It was observed that the students of the first half (81.0%) and those of the second half (90.0%) of the course had considerable knowledge about the theme.

Tables 4 and 5 show the values related to the association between knowledge based on secondary prevention of CC and students' academic variables.

Table 4 - Association between knowledge directed at screening and intermenstrual bleeding and the students' academic variables. Campina Grande, Paraíba, Brazil, 2017.

Variables	Screening				p	Intermenstrual bleeding				p-value
	Correct		Incorrect			Correct		Incorrect		
	n	%	n	%		n	%	n	%	
Participation in extracurricular activities										
Yes	15	17,6	70	82,4	0,237*	42	49,4	43	50,6	0,032
No	02	7,4	25	92,6		07	25,9	20	74,1	

Semester										
First half	03	7,1	39	92,9	0,066	15	35,7	27	64,3	0,184
Second half	14	20,0	56	80,0		34	48,6	36	51,4	
Assistance to women with an emphasis on CC										
Assisted	12	20,7	46	79,3	0,092	29	50,0	29	50,0	0,167
Never assisted	05	9,3	49	90,7		20	37,0	34	63,0	

*Fisher' exact test.

Table 5 - Association between knowledge about bloody discharge and pelvic pain and students' academic variables. Campina Grande, Paraíba, Brazil, 2017.

Variables	Bloody discharge				p	Pelvic pain				p-value
	Correct		Incorrect			Correct		Incorrect		
	n	%	n	%		n	%	n	%	
Participation in extracurricular activities										
Yes	51	60,0	34	40,0	0,041	56	65,9	29	34,1	0,190
No	22	81,5	05	18,5		14	51,9	13	48,1	
Semester										
First half	33	78,6	09	21,4	0,021	26	61,9	16	38,1	0,920
Second half	40	57,1	30	42,9		44	62,9	26	37,1	
Assistance to women with an emphasis on CC										
Assisted	33	56,9	25	43,1	0,057	39	67,2	19	32,3	0,283
Never assisted	40	74,1	14	25,9		31	57,4	23	42,6	

Regarding screening as a form of secondary prevention, no statistical association was identified with any of the variables analyzed. In general, participants with experience in extracurricular activities (82.4%), who were in the second half of the course (80.0%) and who had assisted a woman with an emphasis on CC (79.3%), did not consider screening as a form of secondary prevention of CC.

Concerning the early diagnosis of CC by means of characteristic symptoms, a significant association was identified with participation in extracurricular activities (p-value = 0.032). In relation to the presence of bloody discharge as a suggestive sign of CC, a significant association was observed with the semester (p-value = 0.021) and with participation in extracurricular activities (p-value = 0.041). Regarding the semester, it was found that there was a higher rate of correct answers for students in the first half of the course (78.6%), when compared to the second

half (57.1%). There was no statistical association between pelvic pain as symptoms suggestive of early diagnosis of CC in any of the variables analyzed.

Discussion

Although CC is the fourth most common type of cancer in the world and the third in Brazil,[2-3] the knowledge related to risk factors and forms of primary and secondary prevention was insufficient among the students participating in this study. A worrying fact, considering that this theme is addressed during graduation and is inserted in the practice of health professionals, including nurses.

The specific knowledge regarding HPV as one of the risk factors for CC was expressive among students, corroborating with data from another study.[18] However, a survey conducted at a university in the interior of Ethiopia,[19] country with one of the lowest Human Development (HDI = 0.442),[20] demonstrated that 59.5% of students never heard of CC, 79.4% did not understand the causes of this type of cancer and 37.7% did not know any risk factors.

Thus, it is clear that the knowledge about the CC and, consequently, the risk factors, may be related to the opportunities for contact with this topic. Opportunities of this kind must be given to undergraduate nursing students, including in the practical field.

Unlike HPV infection, the relationship between smoking as a risk factor for CC has not been consistently established among the participants, being in line with other studies that have highlighted that students did not have enough knowledge regarding this association.[21-22] It is worth noting that smoking is commonly understood as a risk factor for the development of other types of cancer, as in the case of oral cancer,[23] which can be justified by the low knowledge about this correlation.

Regarding the multiplicity of sexual partnerships and the early onset of sexual activity as a risk factor for CC, a study carried out in Curitiba, a city in the south of Brazil, stands out, with

an average number of correct answers for the multiplicity of sexual partnerships of 91% and for the early onset of sexual life, an average of 63% among the nursing students studied,[24] being greater than the results found in the present study.

It was observed, based on the proportion of correct answers, that knowledge about risk factors is still based on HPV infection, requiring intervention and health education actions for these students in order to improve knowledge regarding these aspects.

Regarding the understanding directed to the use of condoms as primary prevention for CC, a higher proportion was observed among students who participated in extracurricular activities, who were in the second half of the course and who assisted women with an emphasis on CC. A study carried out with incoming students identified that 51.7% of the interviewees did not identify the condom as a way to prevent CC and 84.9% did not know other forms of prevention.[25]

It is noticed that the knowledge of this relationship between the students of this study is still insufficient, considering that the average of correct answers was less than 90%. Thus, improvements in theoretical and practical approaches during graduation are suggested through initiatives such as technology innovation and active teaching methodologies, in order to improve students' knowledge.

As for vaccination against HPV as a primary form of prevention of CC, a statistical association was noted with assistance to women with an emphasis on CC and a significant proportion of correct answers among students, corroborating with the result of another study.[26] It is believed that inclusion of HPV immunization in the National Vaccination Calendar in 2014 and the widespread dissemination through the media to this day may have contributed to the popularization of knowledge on the topic.[27]

The results of knowledge related to secondary prevention showed considerable gaps in the academic education process. It was observed that the students had insufficient knowledge about screening and symptoms for CC, which are important strategies for early diagnosis.[4]

Insufficient knowledge in relation to this type of prevention can delay the identification of CC signs and symptoms, making it difficult for women to diagnose and adhere to the actions offered by health services. In this context, a study carried out in Uganda showed that women were unaware of the signs and symptoms of CC, emphasizing the importance of health education actions carried out by health professionals as one of the main facilitators for screening CC.[28]

The approach of risk factors and primary and secondary prevention of CC in the academic scope has the purpose of promoting the development of skills in health education among students, aiming at practical and professional improvement.[29] Therefore, the lack of knowledge linked to this theme can reflect negatively on professional practice and imply assistance with low resolution.

In this sense, an integrative literature review study showed that there is insecurity among nurses regarding the theme and low investment of managers in permanent education,[7] weakening the guidelines about CC and the action plan for the prevention of CC in the female population. health services.

The limitations of this study include the inclusion only of students' knowledge about the aforementioned theme, disregarding the arrangement and organization of the theoretical and practical classes given by the teachers of the Higher Education Institution in which the study was developed. From the teaching experience, it would be more conducive to the identification of the gaps in the students' learning process and the constitution of new teaching strategies, in order to bring students closer to discussions about risk factors and CC prevention.

Conclusion

The results showed that the sociodemographic and behavioral variables among the students did not correlate with the knowledge regarding risk factors and prevention for CC. However, there

was an association of knowledge about this theme with participation in extracurricular activities, semester and assistance to women with an emphasis on CC during graduation.

It was observed that considering smoking, the multiplicity of sexual partnerships and the early onset of sexual life as a risk factor for CC was insufficient among the participants' knowledge. In addition, from the perspective of secondary prevention, screening and early diagnosis, the results showed considerable gaps in knowledge, suggesting a greater approach to these aspects in theoretical and practical activities during undergraduate nursing.

Bearing in mind that the associations found were related to academic aspects, the relevance of strengthening and improving the approach to risk and prevention factors of CC during graduation is highlighted. This can be done through the participation of students in extracurricular activities, in addition to other theoretical and practical paths.

For future studies, we see the relevance of using the qualitative approach with this same theme, in order to anchor the results based on the values and perceptions of each student in a specific and targeted way. It is suggested to carry out intervention studies in order to expand the scope of knowledge of students based on risk factors and the prevention of CC.

The results of this study can be used as a subsidy for students and teachers of nursing courses, as well as nurses, because with this knowledge, it will be possible to understand the nuances of the professional training process and, thus, contribute to activities that address the CC at graduation, positively influencing professional practice.

References

1. Organização Pan-Americana da Saúde (OPAS). Controle integral do câncer do colo do útero: guia de práticas essenciais [Internet]. Washington (DC): OPAS; 2016 [cited 2020 Jan 20]. Available from: https://www.paho.org/hq/index.php?option=com_content&view=article&id=12813:controle-integral-do-cancer-do-colo-do-utero-guia-de-praticas-essenciais&Itemid=40602&lang=es

2. World Health Organization (WHO). Human papillomavirus (HPV) and cervical cancer [Internet]. 2019

[cited 2020 Jul 07]. Available from: https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer

3. Instituto Nacional de Câncer (INCA). Incidência estimada conforme a localização primária do tumor e sexo [Internet]. 2020 [acesso em 2020 jul 05]. Disponível em: https://www.inca.gov.br/numeros-de-cancer

4. Ministério da Saúde (BR), Secretaria de Atenção à Saúde, Departamento de Atenção Básica. Controle dos cânceres do colo do útero e da mama [Internet]. 2ª ed. Brasília (DF): Ministério da Saúde; 2013 [acesso em 2020 jan 20]. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/controle_canceres_colo_utero_2013.pdf

5. Rosa RRPA. Redução da morbimortalidade por câncer de colo uterino. Rev Epidemiol Controle Infecç. 2016;6(3):131-7. doi: 10.17058/reci.v6i3.6633

6. Instituto Nacional de Câncer (INCA). Diretrizes brasileiras para o rastreamento do câncer do colo do útero [Internet]. 2ª ed. Rio de Janeiro: INCA; 2016 [acesso em 2020 jan 20]. Disponível em: https://www.inca.gov.br/publicacoes/livros/diretrizes-brasileiras-para-o-rastreamento-do-cancer-do-colo-do-utero

7. Silva LR, Almeida CAPL, Sá GGM, Moura LKB, Araújo ETH. Educação em saúde como estratégia de prevenção do câncer do colo do útero: revisão integrativa. Rev Prev Infecç Saúde. 2017;3(4):35-45. doi: 10.26694/repis.v3i4.6708

8. Costa FKM, Weigert SP, Burci L, Nascimento KF. Os desafios do enfermeiro perante a prevenção do câncer do colo do útero. Rev Gest Saúde [Internet]. 2017 [acesso em 2019 out 21];17(Supl 1):55-62. Disponível em: http://www.herrero.com.br/files/revista/filef125a619c4b18a99efe6fdf22874fdd6.pdf

9. BRASIL. Ministério da Saúde. Portaria nº 2.436, de 21 de setembro de 2017. Estabelece a revisão de diretrizes da Política Nacional de Atenção Básica (PNAB), no âmbito do Sistema Único de Saúde. Brasília, DF: Ministério da Saúde, 2017. Disponível em: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2017/prt2436_22_09_2017.html. Acesso em: 21 out. 2019.

10. Maia RCB, Silveira BL, Carvalho MFA. Câncer do colo do útero: papel do enfermeiro na estratégia e saúde da família. Rev Cient FAEMA. 2018;9(1):348–72. doi: 10.31072/rcf.v9i1.517

11. AbdAllah AAA, Hummeida ME, Elmula IMF. Awareness and attitudes of nursing students towards prevention of cervical cancer. Cerv Cancer [Internet]. 2016 [cited 2020 Jul 07];1(1):1000106. Available from: https://www.omicsonline.org/open-access/awareness-and-attitudes-of-nursing-students-towards-prevention-of-cervical-cancer-ccoa-1000106.pdf

12. Dönmez S, Öztürk R, Kısa S, Weller BK, Zeyneloğlu S. Knowledge and perception of female nursing students about human papillomavirus (HPV), cervical cancer, and attitudes toward HPV vaccination. J Am Coll Health. 2019;67(5):410-7. doi: 10.1080/07448481.2018.1484364

13. Silva RGM, Nascimento VF, Santos POF, Ferreira MZJ. Teste de Papanicolaou: realização e conhecimento de acadêmicas de enfermagem. Rev Epidemiol Controle Infecç. 2019;9(1):81-6. doi: https://doi.org/10.17058/reci.v9i1.11592

14. Tonhom SFR, Moraes MAA, Pinheiro OL. Formação de enfermeiros centrada na prática profissional: percepção de estudantes e professores. Rev Gaúcha Enferm. 2016;37(4):e63782. doi: 10.1590/1983-1447.2016.04.63782

15. Kellogg C, Shu J, Arroyo A, Dinh NT, Wade N, Sanchez E, et al. A significant portion of college students are not aware of HPV disease and HPV vaccine recommendations. Hum Vaccin Immunother. 2019;15(7–8):1760–6. doi: 10.1080/21645515.2019.1627819

16. Pelullo CP, Esposito MR, Di Giuseppe G. Human papillomavirus infection and vaccination: knowledge and attitudes among nursing students in Italy. Int J Environ Res Public Health. 2019;16(10):1770. doi: 10.3390/ijerph16101770

17. Shetty S, Prabhu S, Shetty V, Shetty AK. Knowledge, attitudes and factors associated with acceptability of human papillomavirus vaccination among undergraduate medical, dental and nursing students in South India. Hum Vaccin Immunother. 2019;15(7–8):1656–65. doi: 10.1080/21645515.2019.1565260

18. Burlamaqui JC, Cassanti AC, Borim GB, Damrose E, Villa LL, Silva L. Human papillomavirus and students in Brazil: an assessment of knowledge of a common infection - preliminary report. Braz J Otorhinolaryngol. 2017;83(2):120-5. doi: 10.1016/j.bjorl.2016.02.006

19. Mruts KB, Gebremariam TB. Knowledge and perception towards cervical cancer among female Debre Berhan University students. Asian Pac J Cancer Prev. 2018;19(7):1771–7. doi: 10.22034/APJCP.2018.19.7.1771

20. Programa das Nações Unidas para o Desenvolvimento (PNUD). Ranking IDH Global 2014. 2015 [cited 2020 Jul 07]. Available from: https://www.br.undp.org/content/brazil/pt/home/idh0/rankings/idh-global.html

21. Lima CA, Amaral JG, Oliveira PP, Santos WJ, Rodrigues AB, Aguiar MIF. Cervical cancer: university students knoweledge. Rev Enferm UFPE On Line [Internet]. 2016 [cied 2020 Jul 07];10(8):2993-3003. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/11369

22. Rachana KC, Giri R. Knowledge regarding cervical cancer among undergraduate female students at a selected college of Lalitpur, Nepal. Can Oncol Nurs J. 2019;29(3):184–8. doi: 10.5737/23688076293184188

23. Silva SR, Juliano Y, Novo NF, Weinfeld I. Comparative study of knowledge about oral cancer among undergraduate dental students. Einstein. 2016;14(3):338–45. doi: 10.1590/S1679-45082016AO3729

24. Okamoto CT, Faria AAB, Sater AC, Dissenha BV, Stasievski BS. Perfil do conhecimento de

estudantes de uma universidade particular de Curitiba em relação ao HPV e sua prevenção. Rev Bras Educ Méd. 2016;40(4):611-20. doi: 10.1590/1981-52712015v40n4e00532015

25. Parreira BDM, Mendes LC, Canton HP, Gomes NS, Soares MBO, Silva SR. Knowledge, attitudes and university practices on prevention of cervical cancer. Rev UFPE On Line [Internet]. 2017 [cited 2020 Jul 07];11(Suppl 5):2116-21. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/23366

26. Hino P, Freitas NC, Onofre PSC, Souza KL, Santos JO. Conhecimento de graduandos em enfermagem sobre a vacina contra o papilomavírus humano. Rev Rene. 2016;17(5): 586-92. doi: 10.15253/2175-6783.2016000500002

27. Ministério da Saúde (BR), Secretaria de Vigilância em Saúde. Informe técnico sobre a vacina papilimavírus humano (HPV) na atenção básica [Internet]. Brasília (DF): Ministério da Saúde; 2014 [acesso em 2019 nov 14]. Disponível em: https://portalarquivos2.saude.gov.br/images/pdf/2015/junho/26/Informe-T--cnico-Introdu----o-vacina-HPV-18-2-2014.pdf

28. Ndejjo R, Mukama T, Kiguli J, Musoke D. Knowledge, facilitators and barriers to cervical cancer screening among women in Uganda: a qualitative study. BMJ Open. 2017;7(6):e016282. doi: 10.1136/bmjopen-2017-016282

29. Rocha JPJ, Oliveira KKD, Matoso LML, Dantas SLC, Maia CAAS. Conhecimento de acadêmicos sobre a prevenção do câncer de colo do útero e de mama. Rev Enferm UFSM. 2018;8(3):464-74. doi: 10.5902/2179769227839

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