CASE REPORT ARTICLE

IMMUNIZATION AGAINST HUMAN PAPILOMAVIRUS IN MUNICIPAL SCHOOLS*

IMUNIZAÇÃO CONTRA PAPILOMAVIRUS HUMANO EM ESCOLAS MUNICIPAIS

INMUNIZACIÓN CONTRA EL PAPILOMAVIRUS HUMANO EN ESCUELAS MUNICIPALES

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ABSTRACT

Objective: to describe the experience of conducting educational activities, analysis of vaccination status and immunization against human papillomavirus (HPV) in students from the municipal system of northern Palmas-TO. **Method:** this is a descriptive study, of the experience report type, developed from actions of the university extension project "Immuniza Escola" of the Nursing Course of the Federal University of Tocantins in partnership with four municipal schools and Health Centers of the Palms Community-TO. Health education groups were formed warning about the importance of HPV vaccination and vaccination cards for analysis and immunization were requested. **Results:** educational groups were organized with 1756 students, of which 440 presented the vaccination cards for analysis and 237 were in delayed HPV vaccination status. 161 students with the first dose and 73 students with the second dose of the HPV vaccine were immunized. **Conclusion:** it was observed that the experience provided, to extensionists, the opportunity to experience, in practice, the contents taught in the academy, besides contributing to the increase of the vaccination coverage and, consequently, the decrease of the number of cancer cases avoided by the HPV immunization. **Descriptors:** Nursing; Public Health Nursing; Health Education; Immunization; Vaccination Coverage; Papillomaviridae.

RESUMO

Objetivo: descrever a experiência da realização de atividades educativas, análise do estado vacinal e imunização contra o papilomavírus humano (HPV) em estudantes da rede municipal da região norte de Palmas - TO. **Método:** trata-se de um estudo descritivo, do tipo relato de experiência, desenvolvido a partir de ações do projeto de extensão universitária "Imuniza Escola" do Curso de Enfermagem da Universidade Federal do Tocantins em parceria com quatro escolas municipais e Centros de Saúde da Comunidade de Palmas - TO. Formaram-se grupos de educação em saúde alertando sobre a importância da vacinação contra o HPV e foram solicitados os cartões de vacina para análise e imunização. **Resultados:** organizaram-se grupos educativos com 1756 estudantes, sendo que, destes, 440 apresentaram os cartões de vacina para análise e 237 estavam com estado vacinal contra o HPV em atraso. Imunizaram-se 161 estudantes com a primeira dose e 73 com a segunda dose da vacina contra o HPV. **Conclusão:** observou-se que a experiência proporcionou, aos extensionistas, a oportunidade de vivenciar, na prática, os conteúdos ministrados na academia, além de contribuir para o aumento da cobertura vacinal e, conseqüentemente, a diminuição do número de casos de câncer evitados pela imunização contra o HPV. **Descritores:** Enfermagem; Enfermagem em Saúde Pública; Educação em Saúde; Imunização; Cobertura Vacinal; Papillomaviridae.

RESUMEN

Objetivo: describir la experiencia de realizar actividades educativas, análisis del estado de vacunación e inmunización contra el virus del papiloma humano (VPH) en estudiantes del sistema municipal, en el norte de Palmas-TO. **Método:** este es un estudio descriptivo, del tipo de informe de experiencia, desarrollado a partir de acciones del proyecto de extensión universitaria "Immuniza Escola" del Curso de Enfermería de la Universidad Federal de Tocantins en colaboración con cuatro escuelas municipales y Centros de Salud de la Comunidad de Palmas-TO. Los grupos de educación sanitaria se hicieron advertir sobre la importancia de la vacunación contra el VPH y se solicitaron tarjetas de vacunación para su análisis e inmunización. **Resultados:** se organizaron grupos educativos con 1756 estudiantes, de los cuales 440 presentaron las tarjetas de vacunación para su análisis y 237 tenían el estado de la vacuna contra el VPH en mora. Se inmunizaron 161 estudiantes con la primera dosis y 73 con la segunda dosis de la vacuna contra el VPH. **Conclusión:** se observó que la experiencia brindó a los extensionistas la oportunidad de experimentar en la práctica los contenidos enseñados en la academia, además de contribuir al aumento de la cobertura de vacunación y, en consecuencia, a la reducción del número de casos de cáncer prevenidos por la inmunización contra el VPH. **Descriptores:** Enfermería; Enfermería en Salud Pública; Educación en Salud; Inmunización; Cobertura de Vacunación; Papillomaviridae.

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INTRODUCTION

Human papillomavirus (HPV) is known to infect the genital or anal skin and oral mucosa of both men and women, and can lead to anal-genital warts and cancer.¹ The virus is transmitted by direct contact with the infected skin or mucosa not necessarily just by sexual intercourse. There are 12 HPV types that are likely to be associated with cancerous lesions, with types 16 and 18 accounting for the majority of cervical cancer cases in the world (about 70%) and also for about 90% of anus cancer cases, 60% of vagina cancer cases and 50% of vulvar cancer cases. It is also reported that these types of viruses are associated with mouth and throat cancers and they are strongly related to the practice of oral sex.²

Types 6 and 11 are found in most genital warts (or genital warts) and laryngeal papillomas and they appear to offer no risk of progression to malignancy; in most cases, the infection is asymptomatic and may remain in the body for several years without signs and symptoms.³

Cervical cancer is estimated to be the fourth most common cancer in women, with around 570,000 new cases worldwide in 2018, representing 7.5% of all female deaths from this disease. About 311,000 deaths are estimated annually from this cancer, with more than 85% in the world's less developed regions.⁴

In 2018.5, in Brazil, cervical cancer, excluding non-melanoma skin cancers, was the second most common occurrence in women, behind breast cancer. Cervical cancer occupies the first place in incidence, being the state of Tocantins the third placed in the region, with forecast of 230 cases. In 2016, there were 5,847 deaths from this neoplasia in Brazil, with the North region being responsible for the highest rates in the country and, when compared to other regions, it is the only one with a clear growth in the mortality rate, with 11.07 deaths per 100,000 women, representing the leading cause of cancer death in women in this region.⁶

Prevention is the best way to prevent HPV infection, with prevention being done through condom use and immunization, as pap smears only help in early detection of cervical cancer.

It is known that, in Brazil, the National Health Surveillance Agency (ANVISA) approved the use of two vaccines for the prevention of HPV, one bivalent, which protects against types 16 and 18, and another quadrivalent, against types 6, 11, 16 and 18.⁷⁻⁸ It is noteworthy that the quadrivalent vaccine has been made available by the Unified Health System, through the National Immunization Program (NIP), since 2014, when it sought to mobilize the female public aged nine to 13 years due to the high incidence of cervical cancer, adopting the vaccination strategy in schools and

family health units in order to reach the target of 80% of this target audience. However, in 2017, the vaccination scheme was expanded to include boys from 11 to 14 years and increasing the age of girls to 14 years.⁸⁻⁹

A two-dose vaccination schedule with a six-month interval is used for both girls and boys, and immunization of boys contributes to the reduction of virus transmission to women and thus, reduces the incidence of HPV-related disease in this group, as well as strengthening the health actions of this public and corroborating shared responsibility for gender reproductive health issues.²

It was revealed, according to a report from Agência Brasil, that between 2014 and 2018, 5.9 million girls with the second dose of the vaccine were vaccinated in the age group of 9 to 14 years, representing 49.9 % of target audience; In relation to the first dose, vaccine coverage in girls was 70.3%, which is much higher than in boys whose vaccine coverage was 20.1% of the target audience.¹⁰

In the Brazilian literature, it is observed that the scientific data on the non-adherence of pre-adolescents and adolescents to HPV vaccination are limited, however, the reports of the national press are numerous.⁹

False news, popularly called fake news, is identified as a contributing factor to low adherence to the HPV vaccine, and the International Center for Research on Cancer (CIIC), together with the World Health Organization (WHO), warned of the problem and reaffirmed that the vaccine is safe and indispensable to eliminate cervical cancer.¹⁰

Low coverage is also speculated to be related to adverse vaccine events,¹¹ which may be: pain at the site of application; moderate intensity edema and erythema; headache; fever of 38 ° C or more; syncope (or fainting) and hypersensitivity reactions, increasing fear among young people and their families about vaccination and decreasing the number of immunized adolescents.¹²

Another contributing factor to low adherence is the lack of knowledge of parents about the HPV virus, the difficulty in dialoguing about sexuality with their adolescent children and the fear that, when vaccinated, they may enter sexually early. Moreover, the unpreparedness of health professionals and schools also acts as obstacles, making it difficult to achieve HPV immunization coverage.^{11,13.}

Combating HPV is an important health action in this scenario. Faced with this, the Nursing students from the Federal University of Tocantins (FUT), members of the "Imuniza Escola" university extension project, were mobilized to carry out health promotion through educational groups and HPV vaccination. in order to strengthen the prevention of cervical cancer, vulva, vagina, anal

region, penis and oropharynx and contribute to the increase of vaccination coverage of children and adolescents enrolled in schools in the northern region of Palmas.

OBJECTIVE

- To describe the experience of conducting educational activities, analysis of vaccination status and immunization against HPV in students from the municipal system of northern Palmas (TO).

METHOD

This is a descriptive, experience-based study developed from health education, vaccination status analysis and HPV immunization in students from 4th to 9th grade, in partnership with four municipal schools and Community Health Centers (CHC) in the northern region of Palmas - TO, during the months of October and November 2018 and February, March and June 2019. The subjects were children / adolescents enrolled between 4th year to 9th grade of Elementary School, aged 9 to 14 years, corresponding to the age recommended by the Ministry of Health in Brazil as target audience for HPV vaccination.

The objective of the actions, which are part of the university extension project “Immuniza Escola”, was to guide parents, teachers and students about the importance of immunization, to analyze the vaccination status and to immunize children and adolescents from Palmas municipal schools (TO).

The activities were carried out through extension nursing students, who were previously trained through lectures and practices on immunization offered in the discipline Special Care in Life Cycles, in addition to meetings with the discipline's monitors, who promoted scheduled activities outside the classroom, providing practical training in vaccine card analysis, immunobiological preparation and administration, procedure recording and scheduling the return to the next immunization.

School managers were previously contacted to present the project, survey the number of students in the age group from 9 to 14 years, authorize the execution and scheduling of educational groups, provide adequate physical space for the analysis of the vaccination and immunization situation. Immunobiologicals and supplies for vaccination were provided to the nearest CSC of each school unit with the support of the Municipal Health Secretariat, partner of the “Imuniza Escola” Project.

Health education groups were formed in each classroom from the 4th to the 9th grade on the importance of HPV vaccination when vaccination cards were also requested for analysis and immunization according to the vaccination

situation. Educational groups were made, lasting 15 to 20 minutes, with a mixed methodology, usually expository-dialogued, using dynamics according to age group. The “Myth and Truth” dynamic was applied to students from 7th to 9th grade, when some sentences about HPV were read by extensionists and the students, divided into groups, raised the signs indicating myth or truth, following the discussion of each answer. The dynamic “Contagion and Prevention” was used for children from 4th to 6th grade to demonstrate the action of the vaccine in the prevention of HPV. In this dynamic was added the extract of red cabbage, a transparent liquid, in glasses characterized by dolls containing water or colorless vinegar; After mixing, the cups containing water continued with the clear liquid, representing the dolls that had been immunized, and in the cups containing vinegar, the liquid turned red, showing contagion in those who were not vaccinated.

The activity was finalized with the educational groups with the delivery of a communiqué containing epidemiological data on cancers that could be prevented by HPV vaccination, so that the children / adolescents could pass on to their parents / guardians, emphasizing their importance and requesting, by signing, of the communiqué, consent for immunization on the scheduled day, along with the vaccination card and the Unified Health System (UHS) card. The date of vaccination with posters spread at strategic points of schools was reported.

It is reported that the extension nursing students attended, accompanied by a teacher, the respective CHC of each school area for the organization of immunobiological / inputs and transport of them to the school units, following all extramural vaccination guidelines of the Brazilian Ministry of Health. They went through all the rooms from the 4th to the 9th grade, collecting the vaccination cards, which were analyzed in a reserved room provided by the schools. Children / adolescents within the appropriate age range (9-14 year old girls and 11-14 year old boys) were immunized and the HPV vaccine overdue, subject to prior written parental consent. Children / adolescents with up-to-date immunization schedule were informed in writing about the upcoming vaccination schedule. Parents / guardians were advised, by hand-written communique, to look for the CHC nearest to their home for students to update their vaccination when they had not signed the HPV vaccination authorization at school and / or when other vaccines National Immunization Calendar.

The doses of immunobiologicals administered, as recommended by the Brazilian Ministry of Health, were registered in the Information System of the National Immunization Program (SI-NIP) and, at the end of the action, the surplus inputs

and immunobiologicals were returned to the corresponding CHC.

School C and 375 from the 4th to 9th grades at School D (Table 1).

RESULTS

Extension actions were carried out in four municipal elementary schools in which 1756 students participated, 919 from the 4th to 9th grades of School A; 181 of the 4th and 5th years of School B; 281 from the 5th to the 9th grades of

Table 1. Distribution of schools by number of students participating in educational groups, number of vaccine cards analyzed, and number of doses of HPV vaccine administered. Palmas (TO), Brazil, 2018/2019.

School	Number of students participating in the educational group	Number of Cards analyzed	Number of Doses Administered		
			1st dose	2nd dose	Total
School A	919	180	77	40	117
School B	181	75	25	8	33
School C	281	66	22	9	31
School D	375	119	40	16	56
Total	1756	440	164	73	237

In School A, 180 vaccine cards were analyzed, corresponding to 19.59% of the total of guests in the educational groups, where 117 children / adolescents, ie 65.00% of those who brought the cards for analysis, had the overdue HPV vaccine.

In School B, the vaccination card of 75 children was verified, finding the highest percentage analyzed among the schools (41.43%) and vaccinating 33 (44.00%) children in this school institution. It is emphasized that, in this school, only girls were vaccinated because male students were not yet in the age range indicated for immunization (11 to 14 years), however, the boys' cards were also requested and evaluated with the intent to analyze the vaccine condition and schedule the next vaccination date.

281 students from School C were invited to analyze the vaccination situation, but only 66 (23.48%) brought the card. 31 children /

adolescents were immunized, which corresponds to almost half (46.96%) of those who had their cards analyzed.

At School D, 119 vaccination cards were checked, 31.73% of a total of 375 invited students. 56 students were vaccinated, ie 47.05% of those who had their cards analyzed were late for the HPV vaccine.

440 vaccination cards were analyzed from students of the schools where the actions took place, that is, only 25.05% of the children who participated in the educational groups and were invited to present the vaccine card for the analysis. 164 children / adolescents were immunized with the first dose of HPV vaccine and 73 with the second dose, totaling 237 doses administered. More than half (53.00%) of the students who had their cards analyzed had their HPV vaccine overdue.

Table 2. Distribution of doses of HPV vaccines administered by sex and age group. Palmas (TO), Brazil, 2018/2019.

Sex	Age group	Doses administered		
		1st dose	2nd dose	Total
Female	9 F 11	64	20	84
	11 F 13	17	18	35
	13 F 15	2	7	9
	Total	83	45	128
Male	11 F 13	63	13	76
	13 F 15	19	14	33
	Total	82	27	109
General Total		165	72	237

Regarding gender, more girls than boys were immunized, with the first group receiving 128 doses of vaccines while the second, 109 (Table 2).

DISCUSSION

Although they participated in an educational activity about the importance of HPV vaccine, only

a quarter of the students took their vaccine cards to be analyzed. Emphasizes the need for other educational practices for schoolchildren and their guardians about the importance of HPV vaccination, seeking to minimize the stigma of infection and increase confidence for greater adherence to immunization, especially those who

have not yet begun their sexual life, since vaccination aims to reach mainly those who have not yet been exposed to the virus, obtaining, thus better results.¹⁴ It is also emphasized that educational practices provide individuals with knowledge about a particular theme and the power to choose their health, not necessarily implying behavior change, which may be related to several other social and cultural factors.

In the literature, several factors are pointed out for HPV vaccine refusal, such as the fear of adverse effects and the impossibility of going to the health unit for vaccination. It is also identified the lack of knowledge about the virus, ways of transmission and possible complications, lack of knowledge about the benefit of the vaccine and concern of those responsible for adverse effects.¹⁵

Using social media as a strategy to promote the health of this population, as it is one of the most influential media today for this audience, seems to be an interesting way to reinforce on-site health education activities. Research shows the power of social networks as a means of information for adolescents, whether through mobile or computer, the ease of exchanging instant messages and the exorbitant interaction of this audience on social networks. Health promotion focused on sexual health through social networks can be a way of reaching this population, being timely for increasing knowledge about STIs and reducing risky behavior, as well as greater adherence to the HPV vaccine.^{16-18.}

Through the extension action, it was found that of the students who had their vaccination status analyzed, more than half had the HPV vaccine in arrears, demonstrating the importance of this type of action to increase vaccination coverage. It is inferred from these data that the coverage for this immunobiological is lower than expected for the population where the action was performed, which requires new actions with the same objective in the referred schools.

The national goal is to reach 80% immunization coverage for boys and girls. It is verified, in the records of the Brazilian Ministry of Health, that, in 2017, there was adherence of most girls from 9 to 14 years in the first dose, but less than half returned to receive the second dose.¹⁹ In Tocantins, it is observed that vaccination coverage is below the recommended, as only 54.7% of girls and 63.6% boys have been immunized against HPV since the inclusion of the vaccine in the NIP.²⁰

Regarding gender and age, the highest number of doses was administered to girls under 11 years old and boys under 13 years old, both in the first and second doses. It was also observed that the number of first doses administered in both girls and boys is higher than the second doses, demonstrating that these students started the HPV vaccination schedule during the extension action.

More girls (128) than boys (109) were vaccinated against HPV, data that are similar to those of a population-based epidemiological survey conducted in 2017 with girls and boys in the state of Goiás. From NIP data, that between January and May 2017, of the total of 36,715 doses administered, 58.5% were applied to girls and 41.5% to boys.²¹ Since the beginning of adolescence, the male interest in prevention and health promotion is scarce and this happens because it deals culturally with these issues, permeating the archaic view that men do not need to take care of health.

In a study conducted in Scotland with 138,692 women who received routine immunization against HPV at 12-13 years of age and underwent the first pap smear at age 20, reductions in all degrees of statistically considerable cervical intraepithelial neoplasia were found, demonstrating 80% vaccine efficacy. It was also found in this study that cervical pathologies were also reduced in unimmunized women possibly due to the protection of most.²²

It is evident that the increase in vaccination coverage is extremely important in reducing cervical cancer cases, which is an important coping strategy for both Brazil and Tocantins, where this cancer is the second most incident, losing out, only losing to non-melanoma skin.⁵

CONCLUSION

Through this extension project, Nursing students were provided with the experience of one of the roles of nurses in the context of public health, enabling the practice of contents taught at the university, direct contact with the community, and contributing to increased immunization coverage and, consequently, over the long term, to decrease the number of cancer cases prevented by HPV immunization.

It was evidenced that the knowledge about the importance of the HPV vaccine and the vaccination coverage in the students who participated in the actions is unsatisfactory, considering the number of students who were invited to present their vaccine cards for the analysis, the lack of adherence and the number of students with delayed vaccination status. Thus, it is perceived the need for continuity of educational actions so that the reach of the target population is greater, being of paramount importance the partnership of the CHC with the schools, as well as the training of health professionals to work in the school environment, providing an opportunity for students and their guardians to answer questions and concerns, seeking to minimize rejection and increase HPV immunization coverage.

It is necessary to maintain a partnership with the schools where the actions were developed in order to carry out new educational practices on

the importance of HPV vaccination and offer a new opportunity for those who did not present their vaccine cards for analysis, since this strategy It also facilitates access to vaccination for students who are not seeking or have difficulty accessing health facilities, as well as being an opportunity to establish links with the health service.

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