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HPV vaccination status of school adolescents and associated factors

Situación de la vacunación contra la VPH de los adolescentes en edad escolar y factores asociados

Situação vacinal de adolescentes escolares contra o HPV e fatores associados

ABSTRACT

Objective: To analyze the HPV vaccination status of school adolescents and its associated factors. **Method:** This is a descriptive study with quantitative approach, carried through with 502 adolescents of schools of the municipal and state public school system, located in the city of Picos in the state of Piauí, in the year of 2018 and with data from DATASUS. **Results:** Of the adolescents researched, the female sex presented greater access and greater annual vaccination coverage against HPV, represented respectively by 74.91% and 46.20% of the school children. However, according to DATASUS information, regarding the access of adolescents showed that boys had greater access to the vaccine represented by 20.04%, and also greater annual vaccination coverage represented by 8.97%. **Conclusion:** The access and vaccination coverage for this immunobiological are well below the recommended, thus requiring new actions in order to increase the adherence of these adolescents to the vaccine.

DESCRIPTORS: Vaccination; Adolescent; Papillomaviridae; Public Health.

RESUMEN

Objetivo: Analizar el estado de la vacunación contra el VPH de los escolares y sus factores asociados. **Método:** Se trata de un estudio descriptivo con enfoque cuantitativo, realizado con 502 adolescentes de escuelas públicas municipales y estatales, ubicadas en la ciudad de Picos en el estado de Piauí, en el año 2018 y con datos de DATASUS. **Resultados:** De los adolescentes encuestados, el sexo femenino presentaba un mayor acceso y una mayor cobertura anual de vacunación contra el VPH, representando respectivamente el 74,91% y el 46,20% de los escolares. Sin embargo, de acuerdo con la información de DATASUS, en lo que respecta al acceso de los adolescentes, se observa que los varones tienen un mayor acceso a la vacuna, que representa el 20,04%, y también una mayor cobertura de vacunación anual, que representa el 8,97%. **Conclusión:** El acceso y la cobertura de vacunación de este inmunobiológico están muy por debajo de lo recomendado, por lo que se requieren nuevas medidas para aumentar la adhesión de estos adolescentes a la vacuna.

DESCRIPTORES: Vacunación; Adolescente; Papillomaviridae; Salud Pública.

RESUMO

Objetivo: Analisar a situação vacinal contra o HPV de adolescentes escolares e seus fatores associados. **Método:** Trata-se de um estudo descritivo com abordagem quantitativa, realizado com 502 adolescentes de escolas da rede pública de ensino municipal e estadual, situadas no município de Picos no estado do Piauí, no ano de 2018 e com dados do DATASUS. **Resultados:** Dos adolescentes pesquisados, o sexo feminino apresentou maior acesso e maior cobertura vacinal anual a vacina contra o HPV, representado respectivamente por 74,91% e 46,20% dos escolares. No entanto, de acordo com as informações do DATASUS, referentes ao acesso dos adolescentes demonstraram que os meninos tiveram um maior acesso à vacina representado por 20,04%, e também uma maior cobertura vacinal anual representado por 8,97%. **Conclusão:** O acesso e a cobertura vacinal para este imunobiológico apresentam-se bem abaixo do recomendado, demandando assim, novas ações com objetivo de aumentar a adesão desses adolescentes a vacina.

DESCRITORES: Vacinação; Adolescente; Papillomaviridae; Saúde Pública.

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INTRODUCTION

The adolescent is an individual susceptible to several public health problems that exist in society. At this stage of life, many doubts arise, desires that when performed incorrectly can result in several events such as Sexually Transmitted Infections (STI), in them the Human Papilloma Virus (HPV) deserves to be highlighted, which can cause malignant tumors, especially colon cancer, uterus and penis. Given these characteristics, the Ministry of Health, through the National Immunization Program, in 2014, expanded the National Vaccination Calendar and introduced the HPV vaccine in the Unified Health System (Sistema Único de Saúde - SUS).⁽¹⁾

Each year an age group is approached to receive the vaccine. With the beginning in 2014, the chosen audience was female adolescents aged 11 to 13 years. Due to their greater vulnerability and lower number, indigenous girls aged 9 to 13 years old were included in the vaccination routine, in their entirety that same year. In 2015

and 2016, girls aged 9 to 11 years were vaccinated, and in 2017 the Ministry of Health expanded to the age range of 9 to 14 years for girls and included the male audience aged 11 to 14 years, 11 months and 29 days.⁽²⁾

During 2014 in Brazil, about 5.373.536 female adolescents aged 9 to 13 years were vaccinated with dose 1 of quadrivalent HPV, thus, the country achieved vaccination coverage of 108,45%. In Piauí, 87.377 were immunized, corresponding to 99,19% of vaccine coverage. In the city of Picos in that year, 2.030 doses were applied, corresponding to 106,73% of the vaccinated public. Comparing to dose 2, there was a sharp reduction in the amount of doses administered and consequently in vaccination coverage. In the country, only 3.212.780 doses were applied with vaccination coverage equivalent to 64,59%. This decrease was also notable in the state of Piauí and in the city of Picos, with the first having only 41.931 doses applied with vaccination coverage of only 47,45% and at the municipal level, this coverage was even lower, corresponding to 40,10%

with only 770 doses applied.⁽³⁾

In 2018 nationwide 4 million girls, that is, 41,8% of 9 to 14 years old completed the vaccination scheme and 911 thousand, that is, 12,7% boys from 11 to 14 years old completed the vaccine scheme. In Piauí, vaccination coverage was 42,2% among girls aged 9 to 14 years and 39% among boys aged 12 and 13 years, with the first dose.⁽⁴⁾

Given the data shown, there is a reduction in vaccination coverage at national, state and municipal levels, which demonstrates the reduction in adherence of adolescents in relation to the HPV vaccine over time, because the vaccine has left schools and be accessible in health posts, where the hours are more restricted, thus interfering in coverage. In addition to the difficulty of access, it is also seen that young people attend the health service little, unlike the child, that parents are more concerned with taking them to the service, and that in addition, this low demand is explained by the typical behavior of juvenile omnipotence. The teenager, thinking that nothing wrong will happen, only wa-

kes up when he sees a case close to him or is diagnosed with a wart, for example. ⁽⁵⁾

In view of the above, the study is justified because the adolescent public is more vulnerable to HPV infection, and therefore must be empowered about the importance of vaccination and immunized against HPV viruses. Therefore, the study is extremely relevant, since it is necessary to continuously reduce the rates of HPV infection, as well as the consequences that it causes.

Thus, the objective of this research was to analyze the HPV vaccination situation of school adolescents and their associated factors.

METHOD

This is a descriptive study, with a quantitative approach, conducted with 502 adolescents from elementary and high schools in the public school system, located in the municipality of Picos, state of Piauí, and computerized data from SUS. The study population consisted of 2.828 female students aged 9 to 14 years, 11 months and 29 days and males aged 11 to 14 years, 11 months and 29 days. To obtain the sample for field collection, the calculation was made using the formula for cross-sectional studies with a finite population. ⁽⁶⁾ From this formula, it was identified that the minimum sample should consist of 338 individuals, but a larger sample of 502 adolescents was obtained. The variables in that study were collected from a structured questionnaire, which addresses the socio-demographic data and practices related to HPV vaccination. Data collection was carried out in some school units in the city selected from a draw until the sample was obtained. Regarding DATASUS data ⁽⁷⁾, the estimate of the population of adolescents living in Picos in the year 2018 (year of collection of the field research) was based on the number of live births that would be in the year 2018 with the target age of the vaccine: 9 to 14 years for girls and 11 to 14 years for boys. Regarding the doses of the HPV vaccine according to the National Immunization Program

System (Sistema do Programa Nacional de Imunizações - SI-PNI), we used the registration of the doses applied and informed in the SI-PNI in 2018 in adolescents from Picos, according to age group and age indicated for HPV vaccine. With these data collected in the field and at SI-PNI, it was possible to obtain access to vaccination, an indicator that measures the access of the target population to vaccination, that is, if the adolescent took at least one dose of the vaccine, as recommended for immunization against HPV is two doses.

For a better understanding, access is a proportion in which the numerator is the number of first doses taken of the HPV vaccine applied to the selected population in the year in which the evaluation is being carried out. The denominator is the number of the target population of the selected population, in this research the year 2018 was considered. In addition, another measure can be obtained with the collected data, which is the annual vaccination coverage, this indicator measures how many adolescents were able to take both doses vaccine, that is, they were immunized against HPV.

Annual vaccination coverage is a proportion in which the numerator is the number of second doses taken of the HPV vaccine applied to the selected population in the year in which the evaluation is being carried out. The denominator is the number of the target population of the selected population, in this research the year 2018 was considered ⁽⁸⁾. The collected data were tabulated and analyzed in the statistical program Statistical Package for the Social Sciences (SPSS), version 20.0, these were organized in tables and analyzed based on absolute and relative frequency.

In the study, the ethical precepts set out in Resolution 466/2012 regarding research with human beings were respected. ⁽⁹⁾ The Free and Informed Consent Term (ICF) and the Free and Informed Consent Term (Termo de Assentimento Livre e Esclarecido - TALE) were used. The research project was approved by the Research Ethics Committee of the Federal University of Piauí with the Certificate of

Presentation of Appraisal of Ethics-CA-AE, number 2.429.531.

RESULTS

Age-related information showed that 11-year-old girls (22,1%) and 12-year-old boys (29,15%) prevailed. As for the birthplace of the participants, the vast majority are from the city where the research was carried out. According to occupation, the majority only study, with 89,8% of girls and 81,4% of boys. According to income, the highest rates are of low income, with 41,9% female and 45,7% male living only with the Bolsa Família Program.

Age-related information showed that 11-year-old girls (22,1%) and 12-year-old boys (29,15%) prevailed.

Regarding the practice of vaccination, it was observed that it was associated with sex, with girls being almost 3 times more likely to be vaccinated against HPV when compared to boys. In addition, the average age among the vaccinated group was slightly higher. It is worth mentioning that, for this analysis, all individuals who had 2 doses of the vaccine registered

in the vaccination booklet were considered vaccinated.

Information regarding access showed that 74,91% of female students had greater access to the vaccine. While in general, 69,92% of students had access to the vaccine. The data referring to annual vaccination coverage showed that the highest vaccination coverage was in females, represented by 46,20% of students. In general, it was evidenced that less than half of the students (36,85%) reached annual vaccination coverage, that is, they had both doses of the vaccine registered on the vaccination card (Table 1).

According to SI-PNI data, the characterization of the vaccination situation of adolescents living in Picos, shows that boys had greater access to the vaccine, represented by 20,04%. In the general group it showed that less than a quarter of the adolescents had access to the vaccine, represented by 17,95%. The data referring to annual vaccination coverage showed that the greatest vaccination coverage was in males, represented by 8,97%. In general, it was evidenced that 8,26% of the adolescents reached the annual vaccination coverage (Table 2).

Another variable analyzed was in relation to the reasons for the non-vaccination of the researched students, it was observed that those that prevailed were: that I am not sick (20,50%), that I do not like (19,87%) and fear (14,83%).

DISCUSSION

The results presented in the research report that 11-year-old girls (22,1%) and 12-year-old boys (29,15%) prevailed, it is clear that it is at this age where usually both sexes go through puberty and are more interested for issues related to sexuality.

The results showed that the practice of vaccination was associated with sex, with girls being almost 3 times more likely to be vaccinated against HPV when compared to boys. In addition, the average age among the vaccinated group was slightly higher, the same was found in a single-center cross-sectional study, carried out with 390 students (ages 12 to 17 years), where 25,3% of the adolescents said they vaccinated by at least one dose. Among them, 10 were male and the remaining 89 were female. Which states that more female teenagers have been vaccinated against HPV than male.⁽¹⁰⁾

The fact that the vaccinated female group is older than the male one also portrayed in a study that the parents had a belief that the age that can start vaccination is early, as the vaccine protects against an STI, and they believe that at that age their daughters have not yet started their sexual life, thus choosing to take their daughters to be vaccinated at an older age, in the perception that at a younger age the risk is less of contracting an STI, and the Ministry of Health recommends the vaccine for girls

between 9 and 14 years of age for vaccination, since in this age group it is likely that they have not started sexual activity.⁽¹¹⁾

The information regarding general access in Picos, that is, the first dose with 17,95%, was greater than the vaccination coverage represented by 8,26%, the same was evidenced in a study done on vaccination coverage against HPV in girls and adolescents in Brazil, by analysis of birth cohorts, in the year 2017. An estimate of the coverage of the HPV vaccine was made in three cohorts of girls eligible for the 1st and 2nd dose of vaccine showed that for most states, in second dose, there is a predominance of low coverage of the HPV vaccine.⁽¹²⁾

In view of the data cited and the search in the literature, some factors for the denial of the HPV vaccine became evident, these being the fear of adverse effects and the impossibility of going to the health unit to be vaccinated. It also points out the lack of knowledge about the virus, ways of transmission and possible complications, ignorance about the benefits of the vaccine and concern of those responsible for the adverse effects.⁽¹³⁾

The information regarding the reasons for the non-vaccination of the students mentioned in the results of this research showed that the most prevalent reasons were the fact that they were not sick to take the vaccine (20,50%), which they do not like (19,87%) and fear (14,83%).

In another observational cross-sectional study on reasons for refusing the HPV vaccine among adolescents aged 11 to 14 years in the city of Maringá-PR, found that the lack of knowledge about the virus was cited by only 7% of the adolescents as a reason for not being vaccinated, while the lack of knowledge about the vaccine prevented 8% of them from seeking the benefit, and almost 14% cited the lack of knowledge of the national vaccination campaign. The most frequently cited reasons were fear of injection and side effects.⁽¹⁴⁾

The fact that the reasons for non-vaccination are cited by the two surveys lead to the same reason the lack of information

Table 1 – Characterization of the vaccine status of the researched students. Picos, Piauí, Brazil, 2018. n=502.

Variáveis	Feminino	Masculino	Geral
Acesso	74,91%	62,31%	69,92%
Cobertura vacinal anual	46,20%	22,61%	36,85%

Source: research data.

Table 2 – Characterization of the vaccine status of adolescents from Pico. Picos, Piauí, Brazil, 2018. n=6181.

Variáveis	Feminino	Masculino	Geral
Acesso	16,50%	20,04%	17,95%
Cobertura vacinal anual	7,77%	8,97%	8,26%

Source: DATASUS

on various factors of vaccination reinforce the importance of carrying out education and awareness programs for the population about the virus and the vaccine together with the immunization campaign, in order to increase adherence to the vaccine.

Therefore, it is important to reflect on this theme of the vaccination situation from the perspective of the associated factors from the theoretical basis on the care and reconstruction of health practices, addressing the prevention of cervical cancer and infections caused by HPV.

CONCLUSION

Access to and immunization coverage

for this immunobiological agent is well below the recommended level, which requires new actions to increase adherence among adolescents. Vaccinating with two doses in the school environment seems to be a good strategy to improve levels of vaccine coverage against HPV.

The research population had mostly girls older than boys, born in Picos, who only study and have low income. Vaccination practice was considered to be associated with sex, with girls being more likely to be vaccinated compared to boys, and the most prevalent reasons for non-vaccination were: "I'm not sick", and "I don't like it" and "fear".

Therefore, it is suggested the use of

scientifically based approaches to more effectively include adolescents in health services for the prevention of HPV in adolescence. Based on the study, nurses can develop programs such as creative and easy-to-understand lectures, with a focus on Basic Health Units (Unidades Básicas de Saúde - UBS), schools, educational centers, among others. It is important to emphasize the importance of the multidisciplinary team to carry out an active search for unvaccinated adolescents, and to use the Health at School Program (Programa Saúde na Escola - PSE) for the immunization of these adolescents, in addition to other health promotion and prevention activities for this population. ■

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