

# Chapter 203

## Hesitation and non-acceptance of the human papillomavirus vaccine: An integrative review

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### ABSTRACT

**Objective:** to analyze the available evidence on the factors that influence hesitancy and non-adherence to the human papillomavirus vaccine in children, adolescents, and caregivers. **Method:** an integrative review of articles published between March 2014 and February 2022, according to a search in the Virtual Health Library, National Library of Medicine, and Cumulative Index to Nursing and Allied Health Literature, using the descriptors "vaccination", "HPV", "papillomaviridae", "vaccine hesitancy", "vaccine", "adolescent" and "papillomavirus vaccine". **Results:** 3 articles were selected. The review made it evident that the factors of hesitation, adherence, and non-adherence to the papillomavirus vaccine are associated with the belief that the vaccine promotes the anticipation of sexual life, the lack of information about adverse effects, and the lack of information about the vaccine. **Conclusion:** the nursing profession has a fundamental role in the dissemination of safe information about the topic addressed.

**Keywords:** HPV, Vaccination hesitation, Vaccine, Adolescent, Papillomavirus vaccine.

## 1 INTRODUCTION

The Human Papillomavirus (HPV) is a sexually transmitted infection, the virus is epitheliotropic, that is, the infection affects the epithelium of the skin and mucous membranes, especially the genital region. Its transmission occurs through skin-to-skin or skin-mucous sexual contact, being able to cause cancer of the cervix, vagina, vulva, penis, throat, and anus, as well as genital warts. There are more than 200 types of HPV, the most common being types 16 and 18, which are the precursors of carcinomas, and types 6 and 11, responsible for warts. <sup>1,2</sup>

Cervical cancer contributes significantly to morbidity and mortality among women in Brazil. <sup>3</sup> According to data from the World Health Organization (WHO), every year about 530,000 new cases and 275,000 deaths of women from cervical cancer are reported worldwide, and this type of cancer occupies

the second position among the most common cancers in women in developing countries, second only to breast cancer. <sup>4-5</sup>

With worldwide estimates of high rates of cases and deaths from cervical cancer, vaccination is considered a safe, effective, and cost-effective method to eliminate HPV. The vaccine acts prophylactically against the precursor lesions of cervical cancer, however, other prevention measures should not be left aside, such as the use of condoms and the screening of lesions through cytopathological examinations. <sup>6,1,2</sup>

In 2014, the quadrivalent vaccine, which protects against HPV types 6, 11, 16, and 18, was included in the national vaccination calendar of the Unified Health System (SUS), through the National Immunization Program (PNI), being made available, from then on, free of charge in basic health units. <sup>7</sup>

When launching the first campaign, the goal of the PNI was to achieve vaccination coverage for 80% of the female population in the age group of 9 to 13 years. The strategy adopted by the Ministry of Health was to vaccinate children and adolescents in schools. As a result, the target was exceeded in some regions. The second dose, on the other hand, began to be applied in the basic health units and the goals were not achieved, as well as in the following campaigns. <sup>8,1</sup>

Therefore, factors associated with low vaccination coverage and vaccine refusal are identified, such as low level of education, socioeconomic factors, religious and cultural beliefs, lack of information about the vaccine, fear of adverse effects, and the association of vaccination with the early onset of sexual life. <sup>7,8</sup>

Because of the above, this article presents the results of a course conclusion paper, which guided the research question "What is the evidence about the hesitation and non-adherence of children, adolescents, and guardians to the HPV vaccine?". This study aimed to analyze the available evidence on the factors that influence hesitation and non-adherence to the anti-HPV vaccine in primary care of the SUS.

## **2 MATERIALS AND METHODS**

To ensure rigor in the direction of this review, recommendations from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) were used. <sup>9</sup> This is an integrative review (IR), which is a method that offers broader information on a given subject and allows the researcher to synthesize results in a systematic and orderly manner and, with this, generate a broader baggage of knowledge. <sup>10,11</sup> IR is a broad method, since it allows the inclusion of all studies, without distinction of design, allowing a comprehensive analysis of the literature, cooperating significantly in discussions and reflections on methods, results of research, and future research. <sup>11th</sup>

The research was conducted using the six stages of the process of elaboration of the integrative review, proposed by Mendes, Silveira and Galvão, following the following steps: i) identification of the theme and selection of the hypothesis or research question for the elaboration of the integrative review; ii) establishment of criteria for inclusion and exclusion of studies/sampling or literature search; iii) definition of the information to be extracted from the selected studies/categorization of the studies; iv) evaluation of

the studies included in the integrative review; v) interpretation of the results; vi) presentation of the review and synthesis of knowledge.<sup>11</sup> The research question was "What are the factors that influence the hesitation and non-acceptance of children, adolescents and those responsible for the HPV vaccine in the context of primary care of the Unified Health System?", developed based on the PICo strategy, where P means population, I means interest/intervention and Co means context (Chart 1).

Table 1 - Components of the research question according to the PICo strategy

DESCRIPTION	ABBREVIATION	COMPONENTS OF THE QUESTION
Population	P	Children, adolescents, and guardians
Interest/intervention	I	HPV vaccine
Context	Co	Hesitation and non-acceptance of the HPV vaccine in SUS primary care

Source: Prepared by the authors, 2022.

To search for the primary studies included in this IR, the following databases were used: the National Library of Medicine (*PubMed*), the Cumulative Index to Nursing and Allied Health Literature (*CINAHL*), and the Virtual Health Library (VHL). The Health Science Descriptors (DeCS) and the controlled descriptors *Medical Subject Headings (MeSH)* were used, and determined according to the vocabulary of each database used. The descriptors were linked through the use of the Boolean operators AND and OR, among the elements of the search strategy, to ensure a wide search in the databases. Controlled and uncontrolled descriptors determined by the authors after previous reading on the topic to be investigated were used: Vaccination; HPV; Papillomaviridae; Vaccine hesitancy; Vaccine; Adolescent; Papillomavirus vaccine.

The articles were included in the review according to the following search criteria: primary studies, whose theme addresses vaccine hesitancy and the non-acceptance of children, adolescents, and guardians of the anti-HPV vaccine in primary care of the SUS, published in Portuguese, from July 2014 to February 2022 - given that the HPV vaccine was included in the national vaccination calendar in 2014, primary, quantitative and qualitative studies. The following exclusion criteria were determined: experience reports, reviews, editorials, theses, dissertations, or articles whose theme was incompatible with the research proposal. In addition, complementary research was conducted through manual searches and reading of the references of the included studies.

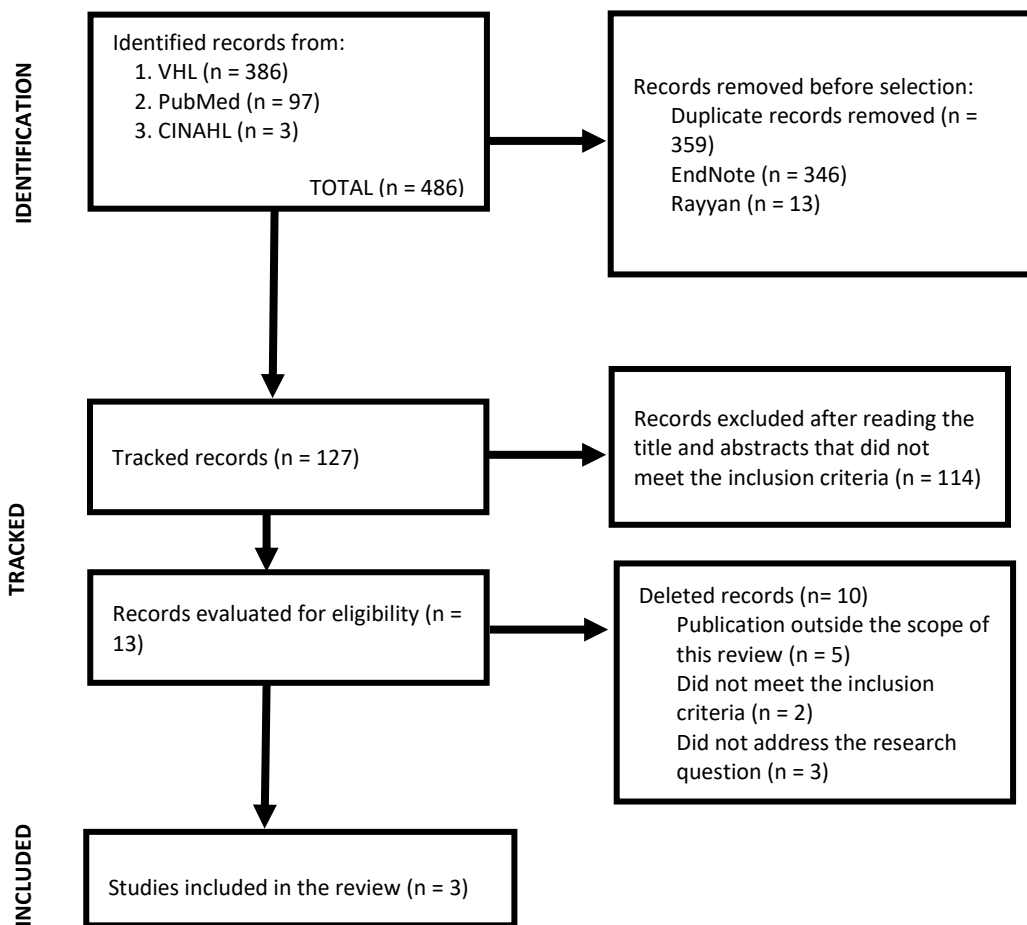
The survey was conducted in April 2022 and the identified studies were exported to Clarivate's EndNot *Web* reference manager.<sup>12</sup> These primary studies were organized and duplicates were excluded by the available tool, the reference manager mentioned above.<sup>13</sup> After deletion, the studies were exported to the web Rayyan Systems Inc., which is used for peer reading, using blinding, allowing a third reviewer to resolve possible conflicts. Another scan of possible duplicates was made, starting the stage of reading the titles and abstracts, using the blinding between the two reviewers, independently. Then, the complete reading of the articles selected in the previous stage was performed, remaining blind, to define the final IR sample, after meeting with the third reviewer.<sup>14th</sup>

The extracted data were analyzed, interpreted, and presented descriptively in summary tables.

### 3 FINDINGS

Through the search in the databases, 486 potentially eligible articles were identified, and a total of 359 duplicate articles were excluded. After reading the titles and abstracts of the 127 articles, 114 studies were excluded because they did not portray the hesitation and non-acceptance of the HPV vaccine by adolescents and guardians. Thus, 13 studies were analyzed in full (Figure 1).

Figure 1- Flowchart for new systematic reviews that included studies of databases and records only.



Source: Prepared by the authors, 2022. Adapted from PAGE et al. and PRISMA. <sup>15-9</sup>

Among the selected studies, one study is from 2017, one from 2020, and one from 2021, these studies were read in full and then organized in a spreadsheet, authored by itself, in Microsoft Excel®, taking into account the following aspects: title, journal, year and language, area of publication and research design, hesitation and adherence/non-adherence factors and limitations (Chart 1).

Table 1: Summary of selected studies.

<b>Title</b>	<b>Periodic/ Year/Language</b>	<b>Area/ Outline</b>	<b>Hesitation and adherence/non- adherence factors</b>	<b>Limitations</b>
Reasons for refusal of the vaccine against Human Papillomavirus among adolescents aged 11 to 14 years in the municipality of Maringá-PR	Brazilian Journal of Family and Community Medicine  2017  Portuguese	Family and community medicine  Descriptive study	Fear of adverse effects, fear of the injection, religious belief, and belief that the vaccine can promote promiscuity.  Lack of knowledge about the virus and the vaccine, lack of knowledge about the national immunization campaign, and difficulty in going to the UBS.	The sample was limited to a single municipality.
Experience of guardians of adolescents in vaccination against papillomavirus: a phenomenological study	Online Braz. j. nurs.  2020  Portuguese	Nursing  Descriptive study	The vaccine may encourage early sexual initiation.  Lack of information about the effectiveness of the vaccine.  Indication of the pediatrician, confidence in the protection and manufacture of the vaccine, and the interest of the adolescent himself in getting vaccinated.	It does not address the experience of the various populations in our society, so it would be necessary to approach different realities.
Feelings of preadolescents and adolescents regarding vaccination against human papillomavirus	Nursing Magazine  2021  Portuguese	Nursing  Descriptive study	Fear of the vaccine, because of the pain and the needle, fear of adverse effects. Consider the vaccine as a form of prevention against the disease.	The study was conducted only with girls.

Source: Prepared by the authors, 2022.

## 4 DISCUSSION

### 4.1 HESITATION FACTORS

Hesitation is understood as the act or effect of being undecided about what to do or not to do; doubt; or hesitation.<sup>15</sup> Among the factors of HPV vaccine hesitancy, there is the belief that the vaccine has the potential to promote the early onset of sexual life, as well as to coin a kind of enabling for freedom from a constant exchange of sexual partners.<sup>16, 18,19</sup>

The fear of the invasive procedure, using needles, and the adverse effects caused by the vaccine were other recurrent themes among the hesitation factors identified in the selected articles. Another factor of hesitation identified in one of the studies is the thought that there are obscure interests in the act of vaccination.<sup>18-19</sup>

## 4.2 ADHERENCE AND NON-ADHERENCE FACTORS

The term adhesion refers to the act, process, or effect of adhering, the acceptance of the principles of an idea, doctrine, way of life, etc.; support, approval, and recognition.<sup>20</sup> Among the factors of adherence and non-adherence to the anti-HPV vaccine identified in the selected studies, one of them is the recommendation of the anti-HPV vaccine by the pediatrician. The confidence in the manufacture and protection of the vaccine and the importance of vaccination as a way of preventing diseases and diseases, as well as the interest of adolescents themselves in getting vaccinated, contribute to adherence to the anti-HPV vaccine, as cited by parents and guardians.<sup>7,20</sup> pm

In the decision not to adhere to the HPV vaccine, there is a preponderant lack of knowledge about the form of transmission and the close relationship between HPV infection and cervical cancer. The lack of information about the vaccine and its efficacy, the dissemination of unreliable information about the action and adverse effects of the vaccine on social networks, as well as the religious bias that advocates total sexual abstinence before marriage as prevention of sexually transmitted infections (STI), are reasons found in this context.<sup>6,19</sup> pm

Barriers to access to the health service were identified as a reason for non-adherence, such as the population's lack of knowledge about immunization campaigns and the impossibility of going to the basic health unit to get vaccinated.<sup>18th</sup>

## 4.3 STRATEGIES TO ENCOURAGE VACCINATION

In the included studies, gaps related to the source of information about the virus and the vaccine were identified, and this is the premise for the emergence of health education strategies to encourage vaccination, when a new vaccine is inserted in the PNI or when there are changes in the vaccination schedule.<sup>5,19</sup> pm

The health professional, being a promoter of information, must be able to adopt different strategies for the promotion and propagation of information to adolescents and guardians. Pre-vaccination counseling is extremely important, going beyond information about the benefits of vaccination, being a time to clarify doubts about the vaccine and its effects, and respecting the uniqueness and beliefs of each individual.<sup>16,18</sup> Encouraging vaccination, through health education, and promoting a partnership between schools and primary health care, is a strategy to reach the target population of the vaccine, because the offer of updated and correct information, as well as the clarification of doubts, should also be offered to adolescents, using terminology appropriate for the age group, to facilitate the understanding of the information.<sup>17th</sup>

In addition, a study not included in this review states that the dissemination of informal sources of communication, such as the Internet, causes health professionals to distance themselves from their role as educators and health promoters, allowing the population to obtain information from less accurate sources.

16th

## 5 CONCLUSION

This review made it evident that the factors of hesitation and non-acceptance of the anti-HPV vaccine are related to the lack of safety information about the human papillomavirus and vaccination, with the internet being the main means of obtaining information on the subject addressed.

It was possible to evidence that the fear related to the pain caused by the needle at the time of vaccination and the fear about the adverse effects, as well as the association of the anti-HPV vaccine with the anticipation of sexual life and promiscuity are factors of hesitation pointed out in all the studies included in this review. The lack of knowledge about vaccination campaigns and the lack of information about the effectiveness of the vaccine are also factors brought by the studies.

It is considered that the health professional, especially the nursing professional, has a fundamental role in health promotion, related to vaccination, being extremely important that these professionals are in a constant process of adaptation and evolution of knowledge, being able to promote health education, inside and outside the basic units, through partnerships with educational institutions, bringing correct and scientifically based information to the various populations of society.

It was identified as important limitations, regarding studies conducted only with guardians of girls, restricted only to a single municipality, touching the approach to only a portion of the population, and not being possible to address the experience of the various populations in our society. As a knowledge gap, the lack of studies conducted with male adolescents and their guardians is highlighted, since, given the various changes in the PNI, since 2017, the anti-HPV vaccine is also offered to the male population from 11 to 14 years of age. That said, there is a need for further research addressing this public health problem, using EBP, to collaborate in health decisions related to HPV vaccination.

This study did not intend to exhaust the theme, however, it aims to contribute positively to nursing and other health professionals, allowing the chance for future research based on the findings in this IR.

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