



REVIEW ARTICLE

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PARENTS/GUARDIANS' KNOWLEDGE ABOUT HPV VACCINE AND ITS INFLUENCE ON CHILDREN IMMUNIZATION: AN INTEGRATIVE LITERATURE REVIEW

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ABSTRACT

Introduction: In recent years, several countries have implemented national HPV vaccination programs for girls and, more recently, boys. Factors related to parental acceptance of the vaccine include family characteristics, access to medical care, social and environmental factors; child characteristics and parental specific factors, among others. **Objective:** To evaluate the evidence available in the literature about the knowledge of parents/guardians about HPV and whether it influences the consent of vaccination to their children. **Materials and methods:** This is an integrative review study with predetermined steps. **Results and discussion:** We highlight the lack of national research on this subject, considering that all articles selected for the study were, therefore, of an international character. It may be noted that knowledge about HPV and HPV vaccine is a mixed variable when related to their influence on consenting to child vaccination. **Conclusion:** it is noteworthy that the variable about the knowledge of parents/guardians about HPV and the HPV vaccine does not have direct influence on certain researches, however, it is evident that parents/guardians who have a certain level of knowledge about consider themselves more likely to vaccinate their children.

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INTRODUCTION

Human papillomavirus (HPV) is responsible for the cause of most cervical cancers; considered the third most common cause of cancer among women worldwide, responsible for a high mortality rate. Virus infection is also recognized for causing several other cancers besides genital warts; condition

around which there is substantial stigma and negative impact on quality of life. The development of a vaccine that provides HPV protection against the most common and cancer-causing types is an important step in reducing cervical cancer rates, according to LaVincente *et al*, (2015). Viral types with high oncogenic potential, such as 16 and 18, may be related to cervical, vagina, vulva, anus, and penile carcinomas. When an individual is infected, epithelial cells undergo maturation and

accelerated multiplication; induced by viral oncoproteins (E1 to E7, L1, L2 and CSF), generating a benign neoplastic process that, if undetected and properly treated, may progress to a malignant neoplastic process (LIBERA *et al*, 2016). According to Silveira *et al*, (2017), cancer itself is slowly evolving, affecting mainly women over 25 years of age; developing from changes in the cervix called precursor or intraepithelial lesions; and that in an average period of 5 to 6 years, they can turn into an invasive carcinoma. HPV infection is linked to cancer development in about 94% of cases. Currently, several health organizations, such as the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), the European Centers for Disease Prevention and Control (ECDC), and the American Academy of Paediatrics (AAP), recommend HPV vaccination for girls aged 11-12. In recent years, several countries have implemented national HPV vaccination programs for girls and, more recently, boys (GANCZAK *et al*, 2018). In Brazil, the PNI (National Immunization Program) advocates the immunization of girls, from 9 to 14 years old; and boys from 11 to 14 years. In 2014, the HPV vaccine was incorporated into the PNI of Brazil, conferring immunity against genital warts and cancers types 06, 11, 16 and 18. According to the technical report expanding the supply of human papillomavirus vaccine (Ministry of Health, Brazil; 2018), the target audience was 11-13 year olds, and the goal was to vaccinate 80% of this group. For four months vaccine coverage was 85%, but after 23 reports of psychogenic reactions and increased anxiety-related adverse effects, coverage dropped to 60%. Factors related to parental acceptance of the vaccine include family characteristics, access to medical care, social and environmental factors; child characteristics and specific parental factors such as educational level, race/ethnicity, religion, beliefs, attitudes, knowledge, concerns about the impact of the vaccine on their children's sexual behavior, trust in pharmaceutical companies, and personal questions about vaccine safety (Krawczyk *et al*, 2015). Thus, this study aimed to evaluate the evidence available in the literature about the knowledge of parents/guardians about HPV and if it influences the consent of vaccination for their children.

MATERIALS AND METHODS

This is an integrative review study with predetermined steps. Souza *et al*, (2010) establishes that an integrative literature review is defined as a methodology that provides the synthesis of knowledge and the incorporation of the applicability of relevant studies in professional practice; this type of review being the broadest methodological approach among the others, allowing the inclusion of experimental and non-experimental studies to fully understand the studied phenomenon. To carry out this study, the following steps were taken: identification of the guiding research question, the establishment of inclusion and exclusion criteria of the articles to be searched; the definition of the information to be extracted from the selected articles, and subsequent presentation of the results and final discussion and presentation of the review. As a guide for this integrative review, the following question was asked: what is the parents/guardian's knowledge about the HPV vaccine? Does it have a significant influence on the immunization of children? The search for articles was performed in the Virtual Health Library (BVS), in three databases; namely: Latin American and Caribbean Health Sciences Literature (LILACS), Medical Literature Analysis and Retrieval System

(MEDLINE) and Nursing Database (BDENF). The descriptors were selected from the health terminology consulted in the Health Sciences Descriptors (DECS), as follows: HPV, immunization and parental consent, with their respective variants in portuguese. The survey of publications in the databases occurred from august 2018 to july 2019. The criteria for the inclusion of publications in this integrative review are: articles available electronically, in full; that address the knowledge of parents/guardians about the HPV vaccine, and the level of influence on the immunization of children; as well as articles published in portuguese and english, from january 2014 to november 2018. Regarding the exclusion criteria, the texts that required payment for reading access, duplicate production, editorials, conference proceedings and articles that were not listed were listed answered the question posed in this study.

During the search, all selected titles and their respective abstracts were read. If the abstract was considered sufficient to establish the inclusion of the article; the articles were selected and obtained in their full version, to confirm the relevance and inclusion in the study. Otherwise, when the reading of the title and abstract was not considered sufficient, the full reading of the article was performed to determine its relevance. The search strategy in the BVS database was based on the following combinations: HPV and parental consent/HPV and consentimento dos pais, which generated 61 articles; and HPV and parental consent and immunization/HPV and consentimento dos pais and imunização, which generated 29 articles. Applying the inclusion and exclusion criteria from the reading of titles, abstracts and the full text, if necessary, the final sample consisted of 07 articles. Data analysis and synthesis were performed through the translation and reading of the articles. Data were transcribed to the instrument proposed and validated by Ursi (2005), allowing the detailing of each study, organized by spreadsheet, in the Microsoft Word 2010 program, according to title, authors, objective, results, final considerations and the year of publication.

RESULTS AND DISCUSSION

According to the articles that met the inclusion criteria, the following is an overview of them: of the seven articles selected, all came from the MEDLINE database; and regarding language, all articles were written in english. The lack of national research on this topic is noteworthy, considering that all articles selected for the study were, therefore, of an international character. Selected publications begin in 2015, which may correlate with the start of national HPV vaccination programs. Among the articles analyzed in this review, three are authored by medical professionals; and four were not possible to identify the professional category of their authors. Regarding the development of research, five studies were developed in schools, ranging from primary to high school. One of the articles was conducted in the state of Tennessee; with a stratified sample collected from churches, schools, health departments, and community centers; and other research was conducted in a municipality in Sweden at the beginning of an HPV vaccination program. In relation to the types of journals in which the articles included in the review were published, four were found in public health journals, one in a medical journal; and two in periodicals from other areas of health. Table 1 summarizes the articles included in this integrative review. Regarding the objective of this review, it can be noted that knowledge about HPV and HPV vaccine is a

Table 1. Characterization of the integrative literature review articles

Title	Authors	Objective	Results	Final considerations	Year of publication
Implementation of a national school-based Human Papillomavirus (HPV) vaccine campaign in Fiji: knowledge, vaccine acceptability and information needs of parents.	S. F. La Vincente; D. Mielnik; K. Jenkins; F. Bingwor; L. Volavola; H. Marshall; P. Druavesi; F. M. Russell; K. Lokuge; E. K. Mulholland.	Describe parental knowledge, experiences, and satisfaction with the campaign, to what extent vaccination information influences decision making, and which factors were associated with vaccine consent.	Almost 80% of participants reported consenting to HPV vaccination. Reported knowledge of cervical cancer and HPV before the campaign was very low; Most respondents reported being satisfied with access to information to make an informed decision about HPV vaccination and this was strongly associated with providing consent.	Community awareness and education is critical and should include a focus on the local health workforce and the vaccine target group.	2015
Adolescent Participation in HPV Vaccine Clinical Trials: Are Parents Willing?	Jennifer Cunningham Erves; Tilicia L. Mayo; Pamela C. Gamble; Lauren Duke; Stephanie T. Miller	This study examined factors that influence parents' willingness to consent to their adolescents' participation in HPV vaccine clinical trials and tested possible racial differences.	Approximately 47% of parents were willing to allow the adolescent to participate in HPV vaccine clinical trials. Parental willingness was positively associated with the following variables: child age, perceived advantages of HPV vaccination for adolescents, parental confidence in medical researchers, and ease of understanding clinical trial information.	Educating parents about the advantages of adolescent HPV vaccines and building trust between parents and researchers can increase parents' willingness to consent to adolescent participation in HPV vaccine clinical trials.	2017
Factors that Predict Parental Willingness to Have Their Children Vaccinated against HPV in a Country with Low HPV Vaccination Coverage	Maria Ganczak; Barbara Owsianka; Marcin Korzeń	Assess HPV awareness and identify independent predictors of parents' willingness to vaccinate their children against HPV.	HPV awareness was reported by 55.3% of the 450 parents; 85.1% expressed willingness to vaccinate their children against HPV; 31.3% identified HPV as a sexually transmitted pathogen and 36.2% identified it as a risk factor for cervical cancer.	Most of the significant factors that influenced parents' wishes for vaccination were modifiable, such as being informed about HPV and having positive attitudes toward vaccines.	2018
Parents' knowledge, beliefs, and acceptance of the HPV vaccination in relation to their socio-demographics and religious beliefs: A cross-sectional study in Thailand.	Maria Grandahl; Seung Chun Paek; Siriwan Grisurapong; Penchan Sherer; Tanja Tydén; Pranee Lundberg.	To examine the association between parental knowledge, beliefs, and acceptance of HPV vaccination for their daughters, considering their sociodemographic and religious beliefs.	Prior knowledge of HPV and HPV vaccine was positively related to knowledge of HPV and cervical cancer. For beliefs, knowledge was positively associated with susceptibility (parental perceived risk of HPV infection / related disease), severity, and benefit. However, knowledge was not significantly related to barriers to vaccination.	Parents who reported religion as an important factor, as opposed to those who did not, were more in favor of HPV vaccination.	2018
Girls' explanations for being unvaccinated or under vaccinated against human papillomavirus: a content analysis of survey responses.	Alice S. Forster; Jo Waller; Harriet L. Bowyer; Laura A. V. Marlow	This research sought to explore reasons for not being vaccinated / inadequately vaccinated.	Among unvaccinated girls, the most common reasons are related to lack of vaccination, safety concerns and lack of parental consent.	Safety concerns and perceived lack of need should be addressed to encourage informed adoption of HPV vaccination.	2015
Parents' decision-making about the human papillomavirus vaccine for their daughters: I. Quantitative results	Andrea Krawczyk; Bearbel Kneuper; Vladimir Gilca; Eve Dubé; Samara Perez; Keven Joyal-Desmarais; Zeev Rosberger	Identify key differences between parents who get (acceptor) and parents who refuse (not acceptor) the HPV vaccine for their daughters.	Of the 774 parents, 88.2% reported that their daughter received the HPV vaccine. Perception of daughters' susceptibility to HPV infection, perceived benefits of the vaccine, perceived barriers, and tips for action significantly distinguished parents whose daughters had received the HPV vaccine and those whose daughters had not received it.	The results of this study identify a number of important correlates related to parents' decisions to accept or refuse HPV vaccination for their daughters.	2015
To Consent or Decline HPV Vaccination: A Pilot Study at the Start of the National School-Based Vaccination Program in Sweden	Maria Grandahl; Tanja Tydén; Ragnar Westerling; Trygve Nevéus; Andreas Rosenblad; Erik Hedin; Marie Oscarsson	To examine the association between parental refusal and socio-demographic history, knowledge and beliefs about HPV and HPV vaccination in relation to the Health Belief Model.	There was an association between refusing the HPV vaccine and lower acceptance of previous childhood vaccines; and its main source of information was the internet. Parents who refused the vaccine believed it could adversely affect condom use, their daughter's early sex life, and the number of sexual partners.	Parents should be able to discuss HPV and HPV vaccine with a nurse or other healthcare professional; and must have access to evidence-based information on the internet.	2017

mixed variable when related to their influence on consenting to the vaccination of children. In most studies, parents/guardians had a favorable intention to vaccinate their children, although knowledge of HPV was considered low. Child health was cited as a factor influencing vaccination, as were the advantages perceived by HPV immunization. Parents/guardians who expressed concern about the safety of the HPV vaccine were less likely to vaccinate their children. In a student study of unvaccinated girls, the reason cited for non-vaccination was refusal by parents in 41% of cases. About 63% of these girls justified their parents' refusal, while 37% offered no explanation. Some of the girls reported that their parents did not trust the vaccine, or that enough research had not been done to ensure its safety. However, one of the studies demonstrates that knowledge about the vaccine and decision-making about immunization of children and adolescents remains uncertain, considering that there are researches that show positive relationships regarding knowledge; and those with negative or nonexistent relationships. In one of the studies included in this review, there were no significant differences between the knowledge of parents who consented or refused vaccination of their children.

Conclusion

Concluding the present integrative review, it is highlighted that the variable about the parents/guardians' knowledge about HPV and the HPV vaccine has no direct influence on certain researches, however, it is evident that parents/guardians who have a certain level of knowledge about the theme are considered more prone to vaccination of their children. There is the absence of national studies on the subject, involving the consent of parents/guardians in the immunization of children and adolescents in the indicated age group; reiterating the need for research involving the present theme, since the reasons for consent on the vaccine are diverse and complex, and their understanding aims to build new strategies to enable access by a given population group to health services offerings. Facing the gaps presented by the research, such as the inconclusive results presented by some of the studies that make up this review; it is understood that it is necessary to intensify efforts for the development of research with designs that produce strong evidence related to the investigated theme, especially in the reality of immunization against HPV in Brazil; knowledge of the population about the virus and the infection caused by it; beyond possible consequences.

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