



# Knowledge and attitudes about human papillomavirus and vaccination<sup>a</sup>

## Conhecimento e atitudes sobre o Papilomavírus humano e a vacinação Conocimiento y actitud sobre el virus del papiloma humano y la vacunación

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### ABSTRACT

**Objective:** Uncover knowledge and attitudes of girls, mothers, teachers and health professionals about human papillomavirus and vaccination. **Method:** A qualitative study carried out by means of focus groups in public elementary schools and health units of Sanitary District IV from Recife-PE, Brazil, between June and July 2015. The sample was six schoolchildren, ten adolescents, nine mothers, ten teachers, thirteen health professionals and seven community health agents. Speeches were analyzed with the technique of Discourse of Collective Subject (DSC), using the Qualiquantisoft, version 1.3c software. **Results:** Four categories emerged from the DSC: controversial understanding of HPV; transmissibility of HPV virus; adequate knowledge about the vaccine; and education in health. **Final considerations:** Different levels of knowledge - doubts and misconceptions - about the subject were unveiled. However, attitudes were favorable to adhesion to immunization. Realities that need to be problematized in the educational practice of nurses.

**Keywords:** Knowledge; Attitude; HPV; Vaccination; Nursing.

### RESUMO

**Objetivo:** Desvelar o conhecimento e atitudes de meninas, mães, professores e profissionais da saúde sobre o *Papilomavírus humano* e a vacinação. **Método:** Estudo qualitativo, realizado por meio de grupos focais, nas escolas públicas de ensino fundamental e unidades de saúde do Distrito Sanitário IV de Recife-PE, entre junho e julho de 2015. A amostra foi de seis escolares, dez adolescentes, nove mães, dez professores, 13 profissionais da saúde e sete agentes comunitários de saúde. As falas foram analisadas pela técnica do Discurso do Sujeito Coletivo (DSC), utilizando o software Qualiquantisoft, versão 1.3c. **Resultados:** Dos DSC, emergiram quatro categorias: entendimento controverso sobre o HPV; transmissibilidade do vírus HPV; conhecimento adequado sobre a vacina; e educação em saúde. **Considerações finais:** Diferentes níveis de conhecimento - dúvidas e concepções errôneas - sobre o assunto foram desvelados. Porém, as atitudes foram favoráveis à adesão à imunização. Realidades que precisam ser problematizadas na prática educativa do enfermeiro.

**Palavras-chave:** Conhecimento; Atitude; HPV; Vacinação; Enfermagem.

### RESUMEN

**Objetivo:** Desvelar conocimientos y actitudes de niñas, madres, profesores y profesionales de la salud sobre el virus del papiloma humano y la vacunación. **Método:** Estudio cualitativo, realizado con grupos focales, en escuelas públicas primarias y centros de salud del Distrito de Salud IV de Recife, PE, entre junio y julio de 2015. La muestra fue de seis escolares, diez adolescentes, nueve madres, diez profesores, 13 profesionales de salud y siete agentes de salud comunitarios. Los informes fueron analizados por la técnica del Discurso del Sujeto Colectivo (DSC), utilizando la versión 1.3c del software Qualiquantisoft. **Resultados:** Emergieron cuatro categorías: la comprensión controversia del VPH; transmissibilidad; conocimiento adecuado sobre la vacuna; educación para la salud. **Conclusión:** Diferentes niveles de conocimiento sobre el tema - dudas y conceptos erróneos - fueron desvelados. Sin embargo, las actitudes fueron favorables a la adhesión a la inmunización. Realidades que necesitan ser problematizadas en la práctica educativa del enfermero.

**Palabras clave:** Conocimiento; Actitud; VPH; Vacunación; Enfermería.

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## INTRODUCTION

Human Papillomavirus (HPV) is a DNA-virus, being the types 16 and 18 considered of high risk to development of cervical cancer and other anogenital cancers.<sup>1,2</sup> In Brazil, mortality by this neoplasm reached 5.727 deaths in 2015.<sup>3</sup> Tetravalent vaccine against the virus is a current strategy of cervical cancer prevention in the country, adopted since 2014 in the public health system. The scheme followed consists of two doses, the second dose being applied six months after the first. The target population is girls between nine and fourteen years old that have not started sexual activity, which is the moment the substance is more effective. Since 2017, boys were also included in immunization.<sup>4,5</sup>

Since the implementation of the vaccine, erroneous comments, linked in communication media and social network, impair public health actions. Unfamiliarity about the security and effectiveness of the product interfere in adherence of vaccination, because parents don't vaccinate their daughters.<sup>6</sup> Beyond misinformation, taboos prevent discussion about sexuality, the denial that girls will become sexually active and preoccupation with the fact of those vaccinated adopt sexual risky behaviors constitute barriers to immunization against HPV.<sup>7</sup>

Population, many times, present insatisfactory knowledge about HPV and about available vaccines. This can be related to the way the information are being selected and transmitted by professionals of different areas, because health education must be developed according the capacity of different social extractions in access and process certain informations.<sup>8</sup>

Educational actions that aim to improve knowledge and incentive vaccination must be based on the meaning of the virus and of cervical cancer; on vaccination against HPV; on tracking, diagnosis and cancer treatment; on prevention of sexually transmitted infections (STI); target public's participation and autonomy to adopt healthy behaviors.<sup>9</sup> These activities need to be developed on schools, once it's where young people remain most part of their day. Communication must be clear, continuous, consistent and turned to different groups of population, in order to sensitize and inform about the thematic, through campaigns, educational materials, social media, mobile telephone and other modern technologies.<sup>9,10</sup>

Researchers that aim identification of knowledge about HPV and vaccine against the etiological agent, as well as attitudes on vaccination, must be developed to inform about actual panorama of public health immunization. Beyond that, its results can subside future studies that seek to improve adherence to vaccination against HPV and to strengthen planning of education action to population, with the same purpose.

For that, the following research question was elaborated: How is the knowledge and attitudes of school age kids, adolescents, parents, teachers, undergraduate level health professionals and community health agents (CHA) about HPV and vaccination? With the aim to unveil knowledge and attitudes of girls, mothers and health professionals about human papillomavirus and vaccination.

## METHODS

Descriptive, exploratory, qualitative study, a snip of Master's thesis of the Nursing Post-Graduate Program of Federal Univeristy of Pernambuco, titled "Construction and validation of an educational video for the adherence of human papillomavirus vaccination."<sup>11</sup> Qualitative research offers the possibility of collect more detailed information about different levels of knowledge of HPV and vaccination.<sup>12</sup> It was developed in city and state's public elementary schools, Primary Health Unit (PHU) Sítio do Cardoso and Polyclinic Lessa de Andrade, belonging to the Sanitary District IV of the city Recife-PE, chosen through simple random lottery and intentional form.

Participants, selected by intentional sampling,<sup>12</sup> were: six school children, ten adolescents, nine mothers, ten teachers, 13 undergraduate level health professionals and seven CHA, which met the following inclusion criteria: girls within the age range of vaccination in 2015, students from grades four to eight of elementary school; mothers above 18 years old and with children enrolled in the grades mentioned; teachers working in schools; CHA and undergraduate level health professionals, workers from the PHU and polyclinic of the city mentione. Girls away from school activities due to illness or school suspension and mothers with some limitation that prevented them from participating in the study were excluded.

Sampling size didn't use criteria of theoretical selection once that preoccupation was to form various discussion groups, constituted by people that were involved in a way in the studied thematic, with the intention to unveil several meanings, of different realities.<sup>12</sup>

The technique of data collection employed was a focus group, by the possibilities of participants to have open opinions about the content. It's a group interview that there are interaction between participants, with data production that were not obtained in individual interviews.<sup>13</sup> Quantitative of participants obeyed a variation of six to fifteen people, recomended by literature, because the biggest number would hamper on conduting discussions.<sup>14</sup> Implementation of focus groups totalized six sections, registered by digital recorder and celular appliance, with average time frame of 37 minutes, performed separately by category of participants, during the months of June and July 2015, in reserved environments, in the schools or in the afore mentioned health services.

Before each section, conducted by a moderator with the collaboration of two assistents, were provided, to the present, information as to the importance of objectives of the research, and also how the focus group would be developed. Those who accepted to participate in the study signed a Free and Enlightened Assent Term or Free and Enlightened Consent Term.

Initially, each participant, individually, answered a questionnaire containing several sociodemographic variables to sample characterization (school choldren and adolescents: age, occupation, with whom resided, grade she was in; mothers, teachers and health professionals: age, sex, marital status, education, occupation, monthly family income). Right after this activity, with

the purpose of starting the speeches, the theme was introduced with the aid of a poster about vaccination against HPV produced by the Brazilian Ministry of Health.

Next, the conduction of focus group was guided by three questions, being the first two referring to knowledge about HPV and vaccination: "What do you know about human papillomavirus (HPV)?" ; "What do you know about the HPV vaccine?". The third one was centered on attitudes about promoting immunization: "In what ways could you encourage people to take the HPV vaccine?". At the end of each section, a synthesis of emerged informations from the group was read to proceed to validation by participants.<sup>14</sup>

Sociodemographic data for sample characterization were processed by IBM® SPSS® software, version PASW Statistics 18, extracting absolute frequencies. Speeches, recorded through the development of focus groups, were transcribed entirely for the program Microsoft® Office Word 2007, in separated archives, according with the category of study's participations. Posteriorly, this content was submitted to Collective Subject Discourse (CSD) analysis, through the software Qualiquantisoft version 1.3c. CSD represents a direct speech of collectiveness about an specific theme.<sup>15</sup>

In sequence, from speeches, we extracted key expressions and of these central ideas were originated, to compose a discourse in first person.<sup>16</sup> Key expressions are cutouts, parts or transcriptions that are identified, showing the essence of speeches; while central ideas are expressions that revealed the succinct way of discourse senses.<sup>15</sup> CSD were interpreted in light of constructs: HPV, vaccination against HPV and educational actions about the virus and the vaccination.<sup>9</sup> Focus groups were identified by the letters GF, followed by the letters that designated to the group which participants belonged: "E" for school age children, "A" for adolescents, "M" for mothers, "P" for teachers, "NS" for undergraduate level health professionals and "HCA" for health community agent.

Research project was submitted to Research Ethics Committee from the Health Sciences Center from the Federal University of Pernambuco, under Certificate of Presentation for Ethical Appreciation (CAAE) nº 43685615.2.0000.5208, being approved by feedback nº 1.400.470, issued in February 2nd 2015.<sup>11</sup>

## RESULTS

School age children of nine yearls old, participants in the study, were students of the fourth year in the elementary school, two of them resided with parents and four just with the mother; among adolescents aged 11 to 12 years old, eight and two were in the sixth and seventh grade, respectively, six lived only with the mother and four with the parents. Age average of children's and adolescents' mothers was 36,3 years old, three of them were single and three lived in stable union, three dind't finish elementary school and also three, high school, four were housewives and eight informed to have as monthly family income the miminum wage (present R\$ 788,00).

As for teachers, average of age was 39,1 years old, eight was of female sex, six declared themselves married and six with specialization, with monthly family income of three to four minimum wages. Undergraduate health professionals were an average of 34,1 years old, ten were female, five were married, six had specialization, seven acted like Family Strategy nurses, nine mentioned having monthly family income of five or more minimum wage. HCA were aged average 46,6 years old, six were female, five said they were married, three concluded high school and five said monthly family income was from one to two minimum wage.

About CSD, from the speeches of participants from the focus group, four categories emerged: A) controversial understanding of HPV; B) transmissibility of HPV virus; C) adequate knowledge about the vaccine; D) education in health.

### Category A: Controversial understanding of HPV

This category was originated by the key question "what do you know about the human papillomavirus?", coming from the central ideas of all participants interviewed. It presents common and coherent thoughts about micro-organism that it contrasts to misconceptions about it. On CSD, HPV is identified as the main agent that causes some cancers in the femine and masculine reproductive systems. The place where the virus can cause modifications was mentioned correctly, when related to the lesions detected in the internal and external genitalia, however, it was cited incorrectly when referring to urinary tract. We verify, also, that the virus is confused with immunobiological and, this, in general form, combats cervical cancer and other neoplasms in diverse segments of the human body.

*HPV is a virus responsible for cancer in the uterine cervix. It may be externally in the woman or in the urethral canal. It's related to penis cancer as well. It's a vaccine used to protect underage people against breast cancer, againtst cervical cancer, skin cancer, thus, it prevents cervical cancer. HPV makes our body sick. (GFE, GFA, GFM, GFP, GFNS, GFACS)*

### Category B: Transmissibility of HPV virus

The present category was extracted by the same guiding question referred in the previous category and reports different contributions in CSD of school age children, teachers and undergraduate health professionals about issues involving contamination by HPV. Among them, there are forms of how the virus is transmitted (via sexual, in the passage through the birth canal and for fomites), the association of the transmission of the etiological agent with the masculine gender and the awareness that the condom does not confer total protection. Diverging from these discourses' profiles, negative relation between cancer and death, as a consequence of contagion, was highlighted.

*Cancer in the womb may transmit death. It's a virus that we may contract in the sexual act and it's transmissible. Boys, beyond contamin themselves, are transmitters. It*

*may be transmitted in the time of birth from mother to child too. Even a person who has sex with condom can contract HPV. Even using condoms, it's a type of virus that can be transmitted, not only by sexual relations, but also by using contaminated toilets (GFE, GFP, GFNS)*

### **Category C: Adequate knowledge about the vaccine**

This third category includes the speech of all informants - school age children, adolescents, mothers, teachers, undergraduate level health professionals and HCA - and refers to the guiding question "what do you know about the HPV vaccine?". In it, they allude to the protection and effectiveness conferred by the vaccine, to the importance of the immunobiological as a public health tool for the reduction of cases of cervical cancer, to the target audience in Brazil and vaccination scheme, even though they don't specify the quantitative of doses, impairing adherence.

*The vaccine is against HPV, human papillomavirus. It combats cervical cancer and other diseases. It's given to adolescents to prevent them to have this cancer. It prevents it, but it doesn't cure it. The vaccine is a conquest. In other countries, children this age already take the vaccine and it lowered the number of cases of women with cervical cancer. There are girls with sexual life active, but families don't know. They don't want to take the vaccine for the mother not to discover they are already active. This is cultural, but there should be a break of paradigm. Early on, there was resistance among the parents, but others did not. The culture is still very strong. It's given in doses, the ideal age range for the child is the beginning of puberty. Older women can vaccinate themselves too, but the effect is not as effective as in the young ones, that never had sex. The effect is better in those who never had contact. Adherence have been very difficult to apply itself in the second dose at least. We call, ask, guide the mother to come with the adolescent for the second dose and she doesn't show up. The mother and father want the daughter to get vaccinated but she doesn't want to. (GFE, GFA, GFM, GFP, GFNS, GFACS)*

### **Category D: Education in health**

In this category, CSD obtained from guiding question "how could you incentive people to take the vaccine against HPV?", containing reports from all participants, revealed educational actions as important strategies to promote vaccination. Various methodologies have been suggested, with the use of educational technologies and resources available in the community itself. The development in the school environment, involving parents participations, was also highlighted.

*I think first to focus on prevention. To strengthen this vaccine in the calendar, making people aware of its importance. First the teachers, in education. I think educational activities are very important. Go out on the street explaining, using posters, handing out pamphlets about HPV and the vaccine. Call others. Doing business, television. Going out, doing home visits. Taking the vaccine to give in the streets. Take the girls to the post to take the vaccine. Give a lecture. Talking to adolescents. Explaining what the illness can cause if not taking the vaccine, and also has to take because it prevents several diseases. Talk in the waiting room, as people arrive the health unit, we approach them about the vaccine, about its benefits. Another instrument that is very used are schools, that has the Health Program in the School. To plan with a staff, school of areas, group activities, reunion with parents. The management itself makes available in those units that have the waiting room an instrument as a video of the Ministry of Health. The first thing is to convince parents. Our community members will be listening to that, taking them to their homes, guiding their children. Parents talk and bring their children to get the vaccine. Promote in malls environments, social media, where young people are present. (GFE, GFA, GFM, GFP, GFNS, GFACS)*

## **DISCUSSION**

HPV can provoke lesions in the anogenital region, being associated with the development of cervical cancer and other cancers in that region.<sup>2</sup> This is an issue known, however there are still contradictions within the lesions' typography occasionated by the virus. Maybe the lack of clarification with a bigger level of detailing about HPV being trailer as the knowledge arrives to the population, with information passed in a verticalized manner, do not lead to reflective thinking, causing people to have doubts about the subject.<sup>17</sup>

The wrong association of HPV with immunobiological, indicated also for other types of cancers, can have emerged because of the vaccine having being introduced, in 2014, in the national immunization calendar of the Unique Health System, when there was a greater promotion of the etiological agent.<sup>9</sup> The lack of knowledge about HPV was also evidenced in other studies, in which few people cited adequate information about the virus.<sup>8,18</sup> This scenario reinforces the need to carry out educational actions with the population, in order to raise awareness about the problem of infection and to alert it to the ways of prevention, so that they adopt healthy behaviors.<sup>19</sup>

The various forms of micro-organism transmission were recognized, among them, the sexual transmission, which is the may form of HPV contagion, from the oral-genital, genital-genital or hand-genital contact. Literature,<sup>20</sup> describes that it is still

possible the virus to be transmitted, even with low chances, during the delivery or through contaminated objects, in agreement with the collaborators of this research. Having this knowledge is key to breaking the HPV transfer chain.<sup>2</sup>

About the fact of virus affect the masculine genre, evolving to some cancers, and being more easily passed from man to woman, as remembered in this study by school age children, teachers and undergraduate health professionals, the Ministry of Health included boys between 12 and 14 years old on vaccination against HPV from 2017, in an attempt to prevent its transmission. Until 2020, it is expected to carry out the vaccination coverage of the male population from nine to 14 years, which is already part of the reality of the girls in this age group in Brazil.<sup>5,21</sup> However, the use of condoms, male and female, must not be forgotten, as another resource in the fight against infection, as mentioned by the participants. Even partially protecting against contamination, due to the possibility of contact with lesions that may be discovered, until then it is considered an important ally to avoid the contagion during intercourse with penetration.<sup>2</sup>

The tetravalent vaccine against HPV, available recently in the public health system in Brazil, stimulates specified antibody production for each tipo type of virus: 6, 11, 16 and 18. It was developed, tested and approved, being secure and effective on preventing cervical cancer, and indicated to using in the population by recognized institutions, such as the National Health Surveillance Agency (ANVISA).<sup>22</sup> Although informants know about its existence and recognize its protective effect, it is still necessary to empower more information that promotes vaccination practice to improve adherence to vaccination, which has been showing less than expected in the national scenario since the implantation.<sup>23</sup>

Situations in which the knowledge about the vaccine is still not satisfactory anchored CSD, impacting in the non adherence to vaccination.<sup>8,24,25</sup> Within this context, for the implementation of health action, the educational actions that stimulate the reflection, participation and change of behavior constitute a strategy that can contribute to optimization of this knowledge and it's decision making of people involved with immunization.<sup>9</sup>

The social barriers that emerged from collective thought of school age children, adolescents, mothers, teachers, undergraduate level health professionals and HCA also interfere on vaccination, which hamper administration of the vaccine. This justifies itself because discussion about sexuality among professionals, education and health professionals with target audience of immunization find obstacles such as the preoccupation in stimulating precocious sexual activity sexual of those vaccinated and fragility on clarifications, maily related to adverse events.<sup>7</sup> Parents, most of the time, determine the vaccination of their children and need to be involved in a conversation that demystifies some thoughts and breaks with created taboos. According to the speeches, controversial contexts have been observed, in which some are favorable to vaccination, even if they are clarified on the subject,<sup>8,26,27</sup> and others still show themselves concerned about the safety of vaccines.<sup>28</sup>

What we find is that for unknowing the information, many parents don't vaccinate their children, not guaranteeing the protective effect from the immunobiological.<sup>6</sup> Protection can be achieved with the two-dose scheme of the substance, recommended before the begining of sexual practice, for offering better effectiveness in people who have never had contact with the virus, enabling a antibodies production ten times bigger than natural contact by HPV.<sup>5,9</sup> Thus, reaffirms the need to develop educational activities that.

For the planning and execution of education actions in health that incentive immunization, several strategies can be used, as it was unveiled in this research. However, for its implementation, it's fundamental the use of accessible language to different audiences and also educational technologies that caught attention of population, such as videos, printed materials and other devices, that facilitate communication and lead to changes.<sup>9,29</sup>

Many available educational technologies represent tools, processes and materials generated from technical and scientific knowledge, not being restricted to the means, but to all elements involved in (re) construction of knowledge. It's employment is propitious in coping with some morbidities and promoting health, with emphasis on work on immunization, especially at school.<sup>30</sup> This way to incentive people to vaccinate themselves against HPV was also reported in similar estimony from the informants, from this study, gathered in a single speech.

The school was considered a fertile environment to developing educational actions, by the possibility to congregate different actors on vaccination fortification and for the capacity of stimulate people to transform the reality, inducing individual and collective benefit.<sup>31</sup> As it was suggested, parent's involvement, in this context, enables to guide them, clarify doubts and sensitize them to the protection of their children, causing vaccination. They, beyond being responsible by children's vaccination, can contribute dissemination of coherent and favorable information about immunobiological.<sup>32</sup>

The Program Health in School (PHS), mentioned on discourses as a proposal for development of educational actions, is the actual intersectorial policy that advocates comprehensive health care for children, adolescents and young people on public education in Brazil, instituted by Ministry of Health and Education, since 2007. Educational interventions are designed among health professionals and educators, and should be included in the pedagogical political project of the school to be carried out continuously. In this direction, it's possible to work themes such as sexuality and vaccination in a transversal and interdisciplinary way, putting in practice what's recommended.<sup>31</sup>

The nurse, as one of the members of a multidisciplinary team in the Family Health Strategy, is in front of educational actions from the PHS. Together with the school community, one can elaborate differentiated proposals, according to those that were described by the interviewees. One constitutes an essential professional on providing health care to the population. In addition to having skills to educate the community on vaccination, with emphasis

on primary prevention of cervical cancer, one also participates in interventions to track precursor lesions, encourage condom use, and administer the immunobiological against HPV. One has the competence to change sexual habits among adolescents and young people and in the early active search of suspected cases of the virus.<sup>33</sup>

The educational action to promote vaccination against HPV, when well planned and performed, has the function of increasing the knowledge of individuals, generating appropriate attitudes and enabling behavior change, and can be an important tool for the success of vaccination campaigns in society, with the aim of combating the virus and the various types of neoplasms that it causes from improving adherence.<sup>34</sup>

## FINAL CONSIDERATIONS

The knowledge of school age children, adolescents, mothers, teachers, undergraduate level health professionals and HCA about HPV and vaccination was unveiled, constituted by different levels of understanding, because they have many doubts and wrong conceptions about the subject. However, attitudes suggested as strategies for vaccination of children were favorable and can improve adherence of immunization.

Thus, it is necessary to develop new studies that propose educational strategies in the community, in order to promote the immunization of the target public through changes in behavior caused by information on the subject, made available to health users. Also, the results of this research may contribute to the elaboration and implementation of campaigns, as well as to the planning and dynamism of the health education actions carried out by the nurse, cooperating in the care process.

Results from the qualitative research can not be generalized. Therefore, it is essential that quantitative studies be performed to statistically prove the evidence found in this article.

## REFERENCES

1. Cifu AS, Davis AM. Use of HPV vaccine in males and females. *JAMA* [Internet] 2014 Nov; [cited 2018 Apr 27]; 312(18):1920-21. Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=1.%09Cifu+AS%2C+Davis+AM.+Use+of+HPV+Vaccine+in+Males+and+Females.+JAMA.+2014+Nov%3B312\(18\)%3A1920-21](https://www.ncbi.nlm.nih.gov/pubmed/?term=1.%09Cifu+AS%2C+Davis+AM.+Use+of+HPV+Vaccine+in+Males+and+Females.+JAMA.+2014+Nov%3B312(18)%3A1920-21)
2. Ministério da Saúde (BR). Protocolo Clínico e Diretrizes Terapêuticas, Infecções Sexualmente Transmissíveis. Relatório de recomendação. Brasília (DF): Ministério da Saúde; 2015.
3. Departamento de Informática do Sistema Único de Saúde [Internet]. Brasília (DF): DATASUS; 2017 [cited 2017 May 24]. Available from: <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sim/cnv/obt10uf.def>
4. Baker ML, Figueroa-Downing D, Chiang ED, Villa L, Baggio ML, Eluf-Neto J, et al. Paving pathways: Brazil's implementation of a national human papillomavirus immunization campaign. *Rev Panam Salud Publica* [Internet]. 2015 Aug; [cited 2018 Apr 27]; 38(2):163-6. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Paving+pathways%3A+Brazil's+implementation+of+a+national+human+papillomaviru+s+immunization+campaign>
5. Ministério da Saúde (BR). Nota Informativa N° 311 de 2016/CGPNI/DEVIT/SVS/MS. Informa as Mudanças no Calendário Nacional de Vacinação para o ano de 2017. Brasília (DF): Ministério da Saúde; 2016.
6. Lessa SC, Schramm FR. Proteção individual versus proteção coletiva: análise bioética do programa nacional de vacinação infantil em massa. *Ciênc Saúde Coletiva* [Internet]. 2015 Jan; [cited 2018 Apr 27]; 20(1):115-24. Available from: [http://www.scielo.br/scielo.php?pid=S1413-81232015000100115&script=sci\\_abstract](http://www.scielo.br/scielo.php?pid=S1413-81232015000100115&script=sci_abstract)
7. Oliveira FB, Gelatti LC. Adesão das adolescentes frente à vacinação contra o HPV no município de Uruaçu, Goiás. *FASEMCiênc* [Internet]. 2014 Jul/Dec; [cited 2018 Apr 27]; 6(2):1-8. Available from: [http://webcache.googleusercontent.com/search?q=cache:JifGPFED\\_eUJ:www.fasem.edu.br/revista/index.php/fasemciencias/article/download/66/106+&cd=1&hl=pt-BR&ct=clnk&gl=br](http://webcache.googleusercontent.com/search?q=cache:JifGPFED_eUJ:www.fasem.edu.br/revista/index.php/fasemciencias/article/download/66/106+&cd=1&hl=pt-BR&ct=clnk&gl=br)
8. Osís MJD, Duarte GA, Sousa MH. Conhecimento e atitude de usuários do SUS sobre o HPV e as vacinas disponíveis no Brasil. *Rev Saúde Pública* [Internet]. 2014 Feb; [cited 2018 Apr 27]; 48(1):123-33. Available from: [http://www.scielo.br/scielo.php?pid=S0034-89102014000100123&script=sci\\_abstract&tlng=pt](http://www.scielo.br/scielo.php?pid=S0034-89102014000100123&script=sci_abstract&tlng=pt)
9. Ministério da Saúde (BR). Informe Técnico Sobre a Vacina Papilomavírus Humano 6,11,16 e18 (recombinante). Brasília (DF): Ministério da Saúde; 2015.
10. Lopes MMC, Alves F. Conhecimento dos adolescentes de uma escola pública de Belo Horizonte sobre doenças sexualmente transmissíveis, em especial sobre o HPV. *Acervo Iniciaç Cient* [Internet]. 2013 Jan/Jun; [cited 2018 Apr 27]; 1:1-23. Available from: <http://www3.izabelahendrix.edu.br/ojs/index.php/aic/article/view/409>
11. Interaminense INCS. Construção e validação de vídeo educacional para adesão à vacinação do Papilomavírus humano [Dissertação]. Recife (PE): Universidade Federal de Pernambuco; 2016.
12. Polit DF, Beck CT. Fundamentos de pesquisa em enfermagem: avaliação de evidências para a prática da enfermagem. 7ª ed. Porto Alegre: Artmed; 2011.
13. Busanello J, Lunardi Filho WD, Kerber NPC, Santos SSC, Lunardi VL, Pohlmann FC. Grupo focal como técnica de coleta de dados. *Cogitare Enferm* [Internet]. 2013 Apr/Jun; [cited 2018 Apr 27]; 18(2):358-64. Available from: <https://revistas.ufpr.br/cogitare/article/view/32586>
14. Trad LAB. Grupos focais: conceitos, procedimentos e reflexões baseadas em experiências com o uso da técnica em pesquisas em saúde. *Physis* [Internet]. 2009 Jan; [cited 2018 Apr 27]; 19(3):777-96. Available from: [http://www.scielo.br/scielo.php?pid=S0103-73312009000300013&script=sci\\_abstract&tlng=pt](http://www.scielo.br/scielo.php?pid=S0103-73312009000300013&script=sci_abstract&tlng=pt)
15. Lefèvre F, Lefèvre AMC, Marques MCC. Discurso do sujeito coletivo, complexidade e auto-organização. *Ciênc Saúde Coletiva* [Internet]. 2009 Jul/Aug; [cited 2018 Apr 27]; 14(4):1193-204. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1413-81232009000400025](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-81232009000400025)
16. Figueiredo MZA, Chiari BM, Goulart BNG. Discurso do Sujeito Coletivo: uma breve introdução à ferramenta de pesquisa quali-quantitativa. *Distúrb Comum* [Internet]. 2013 Apr; [cited 2018 Apr 27]; 25(1):129-36. Available from: <https://revistas.pucsp.br/index.php/dic/article/view/14931>
17. Salci MA, Maceno P, Rozza SG, Silva DMGV, Boehs AE, Heidemann ITSB. Educação em saúde e suas perspectivas teóricas: algumas reflexões. *Texto Contexto Enferm* [Internet]. 2013 Jan/Mar; [cited 2018 Apr 27]; 22(1):224-30. Available from: [www.scielo.br/pdf/tce/v22n1/pt\\_27](http://www.scielo.br/pdf/tce/v22n1/pt_27)
18. Coşar E, Gencer M, Hacivelioglu SO, Güngör AC, Uysal A. HPV and HPV vaccination: knowledge and consciousness of young women. [Internet]. 2014 Nov; [cited 2018 Apr 27]; 35(5):554-6. Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=HPV+and+HPV+vaccination%3A+knowledge+and+consciousness+of+young+women.+Eur+J+Gynaecol+Oncol.+2014+nov%3B35\(5\)%3A554-6](https://www.ncbi.nlm.nih.gov/pubmed/?term=HPV+and+HPV+vaccination%3A+knowledge+and+consciousness+of+young+women.+Eur+J+Gynaecol+Oncol.+2014+nov%3B35(5)%3A554-6)

19. Souza AF, Costa LHR. Conhecimento de mulheres sobre HPV e câncer do colo do útero após a consulta de enfermagem. *Rev Bras Cancerol* [Internet]. 2015 Oct/Dec; [cited 2018 Apr 27]; 61(4):343-50. Available from: <http://pesquisa.bvsalud.org/portal/resource/pt/biblio-847047>
20. Doobar J, Quint W, Banks L, Bravo IG, Stoler M, Broker TR, et al. The biology and life-cycle of human papillomaviruses. *Vaccine* [Internet]. 2012 Nov; [cited 2018 Apr 27]; 30(Suppl 5):F55-70. Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=The+biology+and+life+cycle+of+human+papillomaviruses.+Vaccine.+2012+nov%3B30\(5\)%3A55-70](https://www.ncbi.nlm.nih.gov/pubmed/?term=The+biology+and+life+cycle+of+human+papillomaviruses.+Vaccine.+2012+nov%3B30(5)%3A55-70)
21. Zardo GP, Farah FP, Mendes FG, Franco CAGS, Molina GVM, Melo GN, et al. Vacina como agente de imunização contra o HPV. *Ciênc Saúde Coletiva* [Internet]. 2014 Sep; [cited 2018 Apr 27]; 19(9):3799-808. Available from: <http://www.scielo.br/pdf/csc/v19n9/1413-8123-csc-19-09-3799.pdf>
22. Santos Filho MV, Gurgel AP, Lobo CD, Freitas AC, Silva-Neto JC, Silva LA. Prevalence of human papillomavirus (HPV), distribution of HPV types, and factors for infection in HPV-positive women. *Genet Mol Res* [Internet]. 2016 Jul; [cited 2018 Apr 27]; 15(2). Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=Prevalence+of+human+papillomavirus+\(HPV\)%2C+distribution+of+HPV+types%2C+and+factors+for+infection+in+HPV-positive+women.+Genet+Mol+Res.+2016+jul%3B15\(2\)%3A1-9](https://www.ncbi.nlm.nih.gov/pubmed/?term=Prevalence+of+human+papillomavirus+(HPV)%2C+distribution+of+HPV+types%2C+and+factors+for+infection+in+HPV-positive+women.+Genet+Mol+Res.+2016+jul%3B15(2)%3A1-9)
23. Silveira BJ, Moro VCD, Silveira MB, Espírito-Santo LR, Prince KA. Adesão à imunização contra o papilomavírus humano na saúde pública do Brasil. *Rev Saúde Pública do Paraná* [Internet]. 2017 Jul; [cited 2018 Apr 27]; 18(1):157-64. Available from: <http://www.uel.br/revistas/uel/index.php/espacoparasauade/article/viewFile/28771/pdf>
24. Nagpal J, Linares LO, Weiss J, Schlecht NF, Shankar V, Braun-Courville D, et al. HPV Knowledge and Time to Complete Vaccination Among Vulnerable Female Youth. *J Pediatr* [Internet]. 2016 Apr; [cited 2018 Apr 27]; 171:122-27. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=HPV+Knowledge+and+Time+to+Complete+Vaccination+Among+Vulnerable+Female+Youth>
25. Yang Y, Xu M, Sun J, Li R, Li M, Wang J, et al. Human Papillomavirus Infection and Vaccination: Awareness and Knowledge of HPV and Acceptability of HPV Vaccine among Mothers of Teenage Daughters in Weihai, Shandong, China. *PLoS One* [Internet]. 2016 Jan; [cited 2018 Apr 27]; 11(1):e0146741. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Human+papillomavirus+infection+and+vaccination%3A+awareness+and+knowledge+of+HPV+and+acceptability+of+HPV+vaccine+among+mothers+of+teenage+daughters+in+Weihai%2C+Shandong%2C+China>
26. Staras SA, Vadapampil ST, Patel RP, Shenkman EA. Parent perceptions important for HPV vaccine initiation among low income adolescent girls. *Vaccine* [Internet]. 2014 Oct; [cited 2018 Apr 27]; 32(46):6163-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Parent+perceptions+important+for+HPV+vaccine+initiation+among+low+income+adolescent+girls>
27. Voidăzan S, Tarcea M, Morariu SH, Grigore A, Doboreanu M. Human Papillomavirus Vaccine - Knowledge and Attitudes among Parents of Children Aged 10-14 Years: a Cross-sectional Study, Tirgu Mureş, Romania. *Cent Eur J Public Health* [Internet]. 2016 Mar; [cited 2018 Apr 27]; 24(1):29-38. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Human+papillomavirus+vaccine+knowledge+and+attitudes+among+parents+of+children+aged+10-14+years%3A+a+cross-sectional+study%2C+T%3A%AErgu+Mure%2C+Romania>
28. Turiho AK, Muhwezi WW, Ekello ES, Tumwesigye NM, Banura C, Katahoire AR. Human Papillomavirus (HPV) Vaccination and Adolescent Girls' Knowledge and Sexuality in Western Uganda: A Comparative Cross-Sectional Study. *PLoS One* [Internet]. 2015 Sep; [cited 2018 Apr 27]; 10(9):e0137094. Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=Human+papillomavirus+\(HPV\)+vaccination+and+adolescent+girls'+knowledge+and+sexuality+in+Western+Uganda%3A+a+comparative+cross-sectional+study](https://www.ncbi.nlm.nih.gov/pubmed/?term=Human+papillomavirus+(HPV)+vaccination+and+adolescent+girls'+knowledge+and+sexuality+in+Western+Uganda%3A+a+comparative+cross-sectional+study)
29. Interaminense INCS, Oliveira SC, Leal LP, Linhares FMP, Pontes CM. Tecnologias educativas para promoção da vacinação contra o papilomavírus humano: revisão integrativa da literatura. *Texto Contexto Enferm* [Internet]. 2016; [cited 2018 Apr 27]; 25(2):e2300015. Available from: <http://www.scielo.br/pdf/tce/v25n2/0104-0707-tce-25-02-2300015.pdf>
30. Nietsche EA, Teixeira E, Medeiros HP, orgs. Tecnologias cuidadoso-educacionais: Uma possibilidade para o empoderamento do (a) enfermeiro (a)? Porto Alegre: Moriá; 2014.
31. Costa GM, Figueiredo RC, Ribeiro MS. A importância do enfermeiro junto ao PSE nas ações de educação em saúde em uma escola municipal de Gurupi-TO. *Rev Cient ITPAC* [Internet]. 2013 Apr; [cited 2018 Apr 27]; 6(2):1-12. Available from: <https://assets.itpac.br/arquivos/Revista/62/6.pdf>
32. Silva TIM, Santos NTN, Santana LD, Silva SPC. Vacina e HPV: saberes dos pais e responsáveis de meninas adolescentes. *Rev Eletr Gestão Saúde* [Internet]. 2017 Oct; [cited 2018 Apr 27]; 1(3):622-37. Available from: <http://periodicos.unb.br/index.php/rgs/article/view/24202/0>
33. Melo MCSC, Vilela F, Salimena AMO, Souza IEO. O enfermeiro na prevenção do câncer do colo do útero: o cotidiano da atenção primária. *Rev Bras Cancerol* [Internet]. 2012 Jul; [cited 2018 Apr 27]; 58(3):389-98. Available from: [http://www1.inca.gov.br/rbc/n\\_58/v03/pdf/08\\_artigo\\_enfermeiro\\_prevencao\\_cancer\\_colo\\_uterio\\_cotidiano\\_atencao\\_primaria.pdf](http://www1.inca.gov.br/rbc/n_58/v03/pdf/08_artigo_enfermeiro_prevencao_cancer_colo_uterio_cotidiano_atencao_primaria.pdf)
34. Pereira RGV, Machado JLM, Machado VM, Mutran TJ, Santos LS, Oliveira E, et al. A influência do conhecimento na atitude frente à vacina contra o Papilomavírus Humano: ensaio clínico randomizado. *ABCS Health Sci* [Internet]. 2016 Jul; [cited 2018 Apr 27]; 41(2):78-83. Available from: <https://www.portalnepas.org.br/abcshs/article/view/873>

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