

## EDITORIAL

# HPV vaccine: knowledge and acceptance to ensure effectiveness

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## Abstract

The new Vaccine technologies against transmissible and non-transmissible diseases, such as cancer, have had an impact on international public health. The human papillomavirus (HPV) vaccine is used on a large scale in immunization programs in more than 58 countries, with resultant efficacy and safety for precursor lesions of cervical cancer, in addition to anogenital lesions. After the introduction of quadrivalent HPV vaccine (6,11,16 and 18) in Brazil in 2014, monitoring the vaccination coverage and the development of HPV prevalence incidence of cervical abnormalities and precancerous lesions must be observed, as well as morbidity and mortality trends from in situ and invasive cancer. Encouraging information, counseling and continuing education is recommended as a strategy to broaden vaccine acceptance in order to sediment its implementation and ensure effectiveness in reducing new cases of cervical cancer in the future.

**Keywords:** HPV, papillomavirus vaccines, human papillomavirus recombinant vaccine quadrivalent, types 6;11;16;18, uterine cervical neoplasms

Cervical cancer contributes to morbidity and mortality among women in Latin America; prevention, with early detection and health promotion essential in addressing the problem<sup>1,2</sup>. The estimated 16,340 new cases make cervical cancer the second most common neoplasm in the Northeast region<sup>3</sup>. The persistence of new cases and the high incidence in certain regions of the country are related to HPV (human papillomavirus) infection with high oncogenic risk (ability to cause pre-malignant lesions, in situ and invasive cancer), persistence of infection; contributing factors include

low socioeconomic level, other genital infections, immunosuppression and genetic causes. The prevalence of high-risk oncogenic HPV in specific territories and populations combine with the ethnic or racial differences that exist in our country<sup>2-4</sup>. Research to identify the particulars in each territory are important for HPV prevention, early detection of precursor lesions and actions in health promotion as continuing education for professionals and health education in the self-care of the population in general and the vulnerable<sup>3,4</sup>.

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Since 2014, the National Immunization Program of the Ministry of Health (PNI-MS) has provided the quadrivalent HPV vaccine (6,11,16 and 18) for girls aged 9-14 years, including women living with HIV up to 26 years; 12 and 13 year-old boys and 9 to 26 year-old boys and men with HIV under medical guidance have also been added<sup>4</sup>. The primary prevention represented by condom use and a quadrivalent vaccine for HPV, as well as the advent of new vaccines (such as the “nonavalente” vaccine) represent a technological advance in health and a gain for women’s health in the short and long term<sup>5</sup>.

Countries that have adopted the quadrivalent vaccine have reported reduction of precursor lesions from 60-80%, with rates of 100% in populations vaccinated with the quadrivalent vaccine (6, 11, 16 and 18) for cases of genital warts<sup>5-7</sup>.

The optimal timing of vaccination for HPV is recommended prior to the first sexual contact of an individual. Vaccine efficacy in men and women suggests that immunization is more effective among individuals who have not been infected with HPV and reduces the morbidity of young women related to precursor lesions and cancer *in situ*<sup>8</sup>.

However, the vaccination coverage in the target population of adolescents before their initial sexual contact since the implementation of vaccine in the larger population, with percentages below 80% among adolescents in specific territories. That is below the expected and recommended by the WHO for the first and second dose ensuring the herd effect (benefits of the application of vaccines received by uninoculated people)<sup>9</sup>.

Understanding the factors that affect the HPV vaccination decision-making is critical if health promotion interventions are to be developed and address doubts, myths and fears of acceptance in population groups least likely to receive the HPV vaccine<sup>9,10</sup>.

Factors affecting the adequate vaccination coverage in a given population are examined at different socio-territorial levels that include political, community, organization, interpersonal (parent-child relationship), and intrapersonal (professional) relations<sup>10</sup>. In a recent review, Ferrer *et al.*<sup>10</sup>, emphasized political factors, parents and guardians’ decision, as well as the knowledge and counseling of health professionals as the main reasons in decision-making to obtain the vaccine for HPV. Still, these decisions are influenced by safety and efficacy of the vaccine; social norms and values related to sexual activity; confidence in vaccination programs and caregivers<sup>9,10</sup>. In our universal health system, individual financial limitations are not a significant influence in the decision-making since

the vaccine is supplied to the target population without cost<sup>11</sup>.

In health facilities, health professionals’ limited knowledge and skills in providing HPV vaccine could restrict a young woman’s access to the vaccine regardless of her own beliefs and preferences<sup>12</sup>. Health professionals represent, in some studies, the main providers of advice on the vaccine. The relationship between the practitioner and the decision-maker requires clear, accessible and sometimes culturally appropriate communication and information about the HPV vaccination program<sup>12,13</sup>.

Parents may decide not to allow their daughters to be vaccinated, based on cultural or religious perceptions, and the unsubstantiated correlation of the vaccine facilitating early sexual activity<sup>12,13</sup>. Identification of HPV vaccine knowledge gaps and acceptance barriers among adolescents, parents/guardians and health professionals are necessary to develop targeted education programs for the lay population and continuing education in the work process of health professionals<sup>13,14</sup>.

Although young women are a critical part of the HPV vaccination program, the underrepresentation of their opinions in the qualitative literature should be considered in future research<sup>13</sup>. Health promotion activities should focus on the tripod of adolescents, parents/guardians and health care professionals to ensure adequate vaccine coverage and ensure the promising results of the vaccine.

The Journal of Human Growth Development (JHGD) brings the theme of health promotion in the scientific dissemination of articles and discusses necessary changes in the health-disease process, as in the study of Conception of the Right to Health of Mid-Level Technical Professionals of the Unified Health System In Brazil. The article reports on the biological model focused on the disease and medicalization as elements that still dominate in the Unified Health System policy<sup>15</sup>.

The permanent commitment of the journal JHGD to publish themes focused on healthy development inserted in the child and adolescent life cycle as the association of the prevalence of exposure to fluoride in the nails of children’s hands with dental fluorosis<sup>16-18</sup>; between delayed neuropsychomotor development and infants of street drug users<sup>19</sup> and the association of adequate growth with lipid profiles<sup>20</sup>.

The journal JHGD presents the importance of the concept of reproductive planning and preconception planning as a health promotion for children, as well as for the current situation of teenage pregnancy and the association with arterial hypertension<sup>21,22</sup>. Sexual and reproductive rights are

considered in the cited article on the repercussions of Zika virus during pregnancy<sup>23</sup>. In the field of public health, the journal discloses the importance of identifying risk to provide quality care for chronic diseases<sup>24</sup> and non-communicable diseases as well as the indiscriminate use of antibiotics<sup>25</sup>.

The perception and involvement of children and adolescents in clinical research, consent and assent and shared decision-making must be present in the development and planning of actions in health promotion for this population.

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## Resumo

As novas tecnologias em vacina contra doenças transmissíveis e não transmissíveis como o câncer, tiveram impacto na saúde pública internacional, especificamente a vacina para o papiloma vírus humano (HPV) utilizada em larga escala nos programas de imunização em mais de 58 países, com resultados de eficácia e segurança para lesões precursoras do câncer de colo do útero além de lesões anogenitais. Após a introdução em território Nacional da vacina quadrivalente para o HPV (6,11,16 e 18) desde 2014, ressalta-se a importância do monitoramento da cobertura vacinal e o desenvolvimento de estudos de prevalência de HPV em logo prazo, de incidência de anormalidades cervicais e lesões pré-cancerosas bem como de tendência de morbimortalidade por câncer in situ e invasivo. O incentivo às informações, aconselhamento e educação continuada é recomendado como uma estratégia para ampliar a aceitação da vacina a fim de sedimentar sua implantação e assegurar a eficácia na redução dos novos casos de câncer de colo do útero para o futuro.

**Palavras-chave:** HPV, vacinas contra papillomavirus, vacina quadrivalente recombinante contra HPV tipos 6, 11, 16, 18, neoplasias do colo do útero.