

# EFFECTIVENESS OF VACCINATION AGAINST HUMAN PAPILOMA VIRUS

EFICACIA DE LA VACUNACIÓN CONTRA EL VIRUS DE PAPILOMA HUMANO

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LETTERS TO THE EDITOR

## Mr. Editor

The human papillomavirus (HPV) has a high prevalence in young women, which is why it is considered a public health problem. As their main form of transmission is sexual relations, it is estimated that around 80% of individuals will have contact with this virus in the course of their lives<sup>1</sup>.

According to reports from the World Health Organization (WHO), the human papillomavirus (HPV) associated with cervical cancer, ranks fourth among the most common types of cancer that affect women, with an estimated number of 570,000 deaths in 2018<sup>2</sup>.

In addition, WHO includes the HPV vaccine as part of national vaccination programs based on the following considerations: It constitutes a public health priority; the introduction of these vaccines is feasible from a programmatic point of view; sustainable financing can be guaranteed; It has cost-effectiveness as a vaccination strategy; and focuses on teenage girls before the start of active sex life; taking into account the aforementioned, it should be considered that the target population will primarily be made up of girls between the ages of 9 or 10 up to 13 years old<sup>2,3</sup>.

Two HPV vaccines are currently marketed in several countries, a bivalent and a tetravalent vaccine. Both vaccines have been able to prove to be highly effective in preventing infection with types 16 and 18 of the virus, causing around 70% of cervical cancers<sup>2</sup>.

The bivalent vaccine also acts on variable fractions of cancers of the vulva, vagina, penis, anus and oropharynx associated with HPV 7 and 8, whose efficacy is 68.9-100%; The tetravalent vaccine, in addition to acting on HPV types 16 and 18, has been shown to act on HPV types 6 and 11, responsible for about 90% of external genital warts, being effective at 75-100%. Recently a nonavalent vaccine was approved, which in addition to the 4 types of HPV included in the tetravalent vaccine, has action on HPV types 31, 33, 45, 52 and 58, responsible for an additional 20% of cases of cervical cancer. Table 1 shows the efficacy of the vaccine for HPV, in a series of trials<sup>4</sup>.

In short, prevention includes health education, which is defined as: the exchange of information with the purpose of increasing awareness and knowledge about how to stay healthy and prevent diseases, having available information on the resources that are available and the benefits of accessing health services, is fundamental in the reality of countries like ours<sup>5</sup>.

Finally, the importance of the efficacy of vaccination as a prophylactic measure against infection with the Human Papillomavirus should be taken into high consideration, since it has shown favorable results to date.

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**Table 1.** Summary of the main results of HPV vaccine trials.

Population studied	Outcome	Tetrava-lent Vaccine	Bivalent Vaccine	Nonava-lent Vaccine
Young women (16-26 years old)	Efficacy against infection	√	√	√
	Effectiveness vs. CIN2 +	√	√	√
	Efficacy against CiN3	√	√	√
	Effectiveness vs. VIN / VaIN 2/3	√	√	?
	Efficacy against genital warts	√	NA	√
	Efficacy against anal infection	?	√	?
	Efficacy against oral infection	?	√	?
	Partial cross protection against infection	√	√	?
	Cross-protection partially against CIN2 + Therapeutic efficacy	√	√	?
	Therapeutic efficacy	x	x	x
Security	+++	+++	+++	
Adult women (25-45 years old)	Efficacy against infection	√	√	?
	Efficacy against CiN2 +	√	?	?
	Immunogenicity	√	√	?
	Partial cross protection against infection	?	√	?
	Security	+++	+++	?
Young men (16-26 years old)	Efficacy against infection	√	?	?
	Efficacy against genital warts	√	NA	?
	Efficacy against anal infection	√	?	?
	Effectiveness vs. AIN2 +	√	?	?
	Security	+++	+++	?
Pre-adolescentes (10-14 años)	Inmunogenicidad	√	?	?
	Seguridad	+++	+++	?

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√: demonstrated; not demonstrated; +++: very high; x: none; NA: Does not apply because it was not objective. AIN: anal intraepithelial neoplasia; CIN: cervical intraepithelial neoplasia; VaIN: vaginal intraepithelial neoplasia; VIN: vulvar intraepithelial neoplasia; HPV: human papillomavirus.

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