

Original article

# Predictors of having heard about human papillomavirus vaccination: Critical aspects for cervical cancer prevention among Colombian women



Silvia Bermedo-Carrasco<sup>a,\*</sup>, Cindy Xin Feng<sup>a,b</sup>, Juan Nicolás Peña-Sánchez<sup>a</sup>, Rein Lepnurm<sup>a</sup>

<sup>a</sup> School of Public Health, University of Saskatchewan, Saskatoon, Canada

<sup>b</sup> Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Canada

## ARTICLE INFO

### Article history:

Received 15 July 2014

Accepted 16 September 2014

Available online 25 October 2014

### Keywords:

Human papillomavirus (HPV)

Papillomavirus vaccines

Women

Socioeconomic factors

Rural population

Educational status

Colombia

## ABSTRACT

**Objectives:** To determine whether the probability of having heard about human papillomavirus (HPV) vaccination differs by socio-demographic characteristics among Colombian women; and whether the effect of predictors of having heard about HPV vaccination varies by educational levels and rural/urban area of residence.

**Methods:** Data of 53,521 women aged 13–49 years were drawn from the 2010 Colombian National Demographic and Health Survey. Women were asked about aspects of their health and their socio-demographic characteristics. A logistic regression model was used to identify factors associated with having heard about HPV vaccination. Educational level and rural/urban area of residence of the women were tested as modifier effects of predictors.

**Results:** 26.8% of the women had heard about HPV vaccination. The odds of having heard about HPV vaccination were lower among women: in low wealth quintiles, without health insurance, with subsidized health insurance, and those who had children ( $p < 0.001$ ). Although women in older age groups and with better education had higher probabilities of having heard about HPV vaccination, differences in these probabilities by age group were more evident among educated women compared to non-educated ones. Probability gaps between non-educated and highly educated women were wider in the Eastern region. Living in rural areas decreased the probability of having heard about HPV vaccination, although narrower rural/urban gaps were observed in the Atlantic and Amazon-Orinoquía regions.

**Conclusions:** Almost three quarters of the Colombian women had not heard about HPV vaccination, with variations by socio-demographic characteristics. Women in disadvantaged groups were less likely to have heard about HPV vaccination.

© 2014 SESPAS. Published by Elsevier España, S.L.U. All rights reserved.

## Factores que predicen haber oído sobre la vacunación contra el virus del papiloma humano: aspectos críticos para la prevención del cáncer de cuello uterino en mujeres colombianas

### RESUMEN

**Objetivos:** Determinar si la probabilidad de haber oído sobre la vacunación contra el virus del papiloma humano (VPH) varía según características socio-demográficas de las mujeres colombianas; y si el efecto de estos predictores varía según nivel de educación y el área rural/urbana de residencia.

**Métodos:** Datos de 53.521 mujeres entre 13 y 49 años fueron extraídos de la Encuesta Nacional de Demografía y Salud de Colombia, 2010. Se preguntó a las mujeres acerca de su salud y sus características socio-demográficas. Se utilizó un modelo de regresión logística para identificar los factores asociados con haber oído sobre la vacunación contra el VPH. Se evaluó si el nivel educativo y el área rural/urbana de residencia interactuaban con los predictores.

**Resultados:** 26,8% de las mujeres había oído sobre la vacunación contra el VPH. Las probabilidades de haber oído sobre la vacunación contra el VPH fueron más bajas en las mujeres de quintiles de riqueza bajos, sin seguro de salud, con seguro de salud subsidiado, y en aquellas que tenían hijos ( $p < 0,001$ ). A pesar de que las mujeres mayores y con mejor educación tenían una mayor probabilidad de haber oído sobre la vacunación contra el VPH, las diferencias en las probabilidades por grupos de edad fueron más evidentes entre las mujeres con educación comparadas con aquellas sin educación. Las brechas en las probabilidades entre las mujeres sin educación y las altamente educadas fueron mayores en la región Oriental. Vivir en zonas rurales disminuyó la probabilidad de haber oído sobre la vacunación contra el VPH, aunque las diferencias rural/urbana fueron menos amplias en las regiones Atlántica y de la Amazonía-Orinoquía.

### Palabras clave:

Virus del papiloma humano (VPH)

Vacunas contra el papilomavirus

Mujeres

Factores socioeconómicos

Población rural

Escolaridad

Colombia

\* Corresponding author.

E-mail address: [silvia.bermedo@usask.ca](mailto:silvia.bermedo@usask.ca) (S. Bermedo-Carrasco).

**Conclusiones:** Casi tres cuartas partes de las mujeres colombianas no habían oído sobre la vacunación contra el VPH, con variaciones según sus características socio-demográficas. Las mujeres de grupos desfavorecidos tenían menos probabilidades de haber oído acerca de la vacunación contra el VPH.

© 2014 SESPAS. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

## Introduction

Cervical cancer (CC) is responsible for over 275,000 female deaths each year, with more than 500,000 new cases diagnosed worldwide.<sup>1</sup> Persistent infection of the anogenital tract with high-risk human papillomavirus (HPV), which is a sexually transmitted disease,<sup>2</sup> has been established as a necessary cause for cervical intraepithelial neoplasia and cervical cancer.<sup>3,4</sup> Factors such as being sexually active, young age, oral contraceptive use, socio-economic status, high parity, smoking status, and previous HPV infections, among others have been associated with the transmission of HPV.<sup>2</sup>

Vaccination against certain high-risk HPV types among women without previous exposure to these viruses and ideally before their sexual debut has been associated with a reduction of pre-invasive cervical lesions.<sup>2,5</sup> HPV vaccination provides a potential cost-effective way to prevent CC.<sup>6</sup> Currently, two vaccines are available against HPV: the bivalent vaccine protects against HPV types 16 and 18; the quadrivalent one protects against HPV types 6, 11, 16, and 18.<sup>5</sup> Awareness of prevention of CC is key to support HPV vaccination<sup>7</sup> and raising knowledge about the role of HPV in the development of CC is central improve in CC prevention.<sup>8</sup> Previous studies have shown that a lower intention of HPV vaccination is associated with limited awareness and poor knowledge of HPV vaccination.<sup>7,9,10</sup> Therefore, measuring awareness of HPV vaccination is critical for CC prevention programs.

In Colombia, CC is the cancer most frequently affecting women.<sup>11,12</sup> It has been estimated that about 15% of Colombian women will develop a HPV infection during their lifetime.<sup>12</sup> The Colombian *Instituto Nacional de Vigilancia de Medicamentos y Alimentos* (INVIMA) approved the quadrivalent and bivalent HPV vaccines in 2006 and 2007, respectively;<sup>13</sup> then, the HPV vaccines were available for women who were willing to pay for them. The quadrivalent HPV vaccine is an insured service for girls aged 9 years and older since 2012.<sup>14</sup> However, a lack of knowledge about HPV infection and HPV vaccination has been reported in Colombia, especially among less educated and low income groups.<sup>8,15</sup> Indeed, these disadvantaged groups have been highly affected by the structure of the Colombian *Sistema General de Seguridad Social en Salud* (SGSSS), which is an insurance-based health care system.<sup>16</sup> This system has increased barriers to access health care<sup>16</sup> and obtain equal health benefits for individuals unable to pay (subsidized health insurance)<sup>16,17</sup> compared to those who can contribute to the system (contributory health insurance)<sup>16,18</sup> and those who belong to groups with special health care plans (public teachers, workers of public universities, military forces, police, and employees of the Colombian Oil Company).<sup>19</sup>

To the best of our knowledge, there are no nationwide studies in Colombia evaluating socioeconomic and personal factors associated with having heard about HPV vaccination among women. Therefore, our objectives were to determine: (1) the prevalence of Colombian women having heard about HPV vaccination; (2) whether the probability of having heard about HPV vaccination differs by age group, educational level, socioeconomic (wealth quintile) and working status, type of health insurance, region and rural/urban area of residence, women having experienced intercourse, type of contraceptive method used, and women who have had children; and (3) whether the effect of predictors for having

heard about HPV vaccination differs at different educational levels and rural/urban area of residence.

## Methods

The data were drawn from the 2010 National Demographic and Health Survey (NDHS), a national representative survey conducted among women between 13 and 49 years old living in Colombia. In total, 53,521 out of 56,886 women participated in the NDHS (response rate = 94%).<sup>20</sup> This survey evaluated socio-demographic characteristics of participants, as well as different aspects of their health.

All women were asked whether they had heard about the HPV and also if they had ever heard about a vaccine to prevent CC. Women who reported having heard about HPV and having heard about a vaccine to prevent CC were classified as “1 = have heard about HPV vaccination;” otherwise, they were classified as “0 = have not heard about HPV vaccination.” This was the dependent variable of our study. Self-reported factors considered as independent variables in the study were age group, educational level, wealth quintile, working status, type of health insurance, having experienced intercourse, type of contraceptive method used, having children, and region and rural/urban area of residence. Atlantic, Amazon-Orinoquía, Central, Eastern, and Pacific were the regions established in the Colombian NHDS; Bogotá (the capital) was included in the Eastern region. Chi-square tests were performed to test differences in the distribution of women in different categories of the independent variables.

A logistic regression model was built using the manual backward method at a 5% level of significance. Variables not included in the model were tested as confounders; the presence of confounding was considered if these variables changed the parameter estimates of predictors in the model by more than 10%. Additionally, educational level and rural/urban area of residence were tested as modifier effects.

Unadjusted (UORs) and adjusted odds ratios (AORs), 95% confidence intervals (95% CIs), and *p*-values were computed. Women with missing data were excluded from the multivariable analysis. Model diagnostics were examined through receiver-operating characteristic (ROC) curves and assessment of residuals. The analyses were performed using SAS software version 9.3 (SAS Institute Inc., Cary, NC, USA).

The Ethical Committee of the *Asociación Probienestar de la Familia Colombiana (Profamilia)* provided ethical approval for the 2010 NDHS; participants gave their consent before the administration of the survey. To use the 2010 NDHS data for the present study, the University of Saskatchewan Research Ethics Board provided an exception for ethics review.

## Results

In total, data from 53,521 women aged 13–49 years were obtained. The mean age of the women was 29.2 years (SD = 10.8). The distribution of women's characteristics is presented in [Table 1](#). Of the total women, 14,363 (26.8%, 95% CI 26.3–27.1%) reported having heard about HPV vaccination. The proportion of women who heard about HPV vaccination by age group was: 13–18 years, 12.9% (95% CI 11.4–14.4%); 19–24 years, 16.6% (95% CI 15.1–18.1%);

Download English Version:

<https://daneshyari.com/en/article/1073223>

Download Persian Version:

<https://daneshyari.com/article/1073223>

[Daneshyari.com](https://daneshyari.com)