HPV AND CERVICAL CANCER

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Introduction

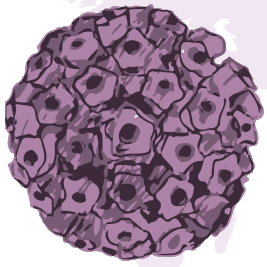
There are more than **200 types of Human Papillomavirus** (HPV). Those types that affect the **anogenital area** are the **most common sexually transmitted infection**. **HPV can be the cause of cancers in anogenital and oropharyngeal tracts**, but cervical cancer is the most frequent. The fact that this type of cancer is **preventable through the implementation of prophylactic vaccination and screening programs** generate a social necessity to create educational material that could help the society to understand the importance of this cancer type.

Objective

The aim of this project is to **develop understandable educational information** that could help to understand the importance of cervical cancer, how it is developed from an HPV infection and how can be prevented to **reassure the importance** for young women to **participate in screening and vaccination programs**.

All cervical cancers are caused by HPV [2]

4th most common cancer among women [2]



2nd cause of cancer deaths in women between 15 and 44 years old [2]

Regular Pap tests reduce the risk of cervical cancer to **75%** [1]

More than an **80%** of the population will be **infected** once in their life [3]

Vaccination and screening programs can reduce cancer by more than a **90%** [4]

Background information

HPV belongs to the viral family **papillomaviridae**.
Only few infected people will develop precancerous and cancerous lesions.

HPV classification: [5]
- **Low risk types** that are the cause of genital warts.
- **High risk types** that can cause precancerous and cancerous lesions.

How this virus can produce cancer?

E6 and **E7** viral proteins generate a genomic instability and the transformation of the epithelial cells. This transformation generates a precancerous lesion, that can spread out the epithelial tissue generating cancer [5].

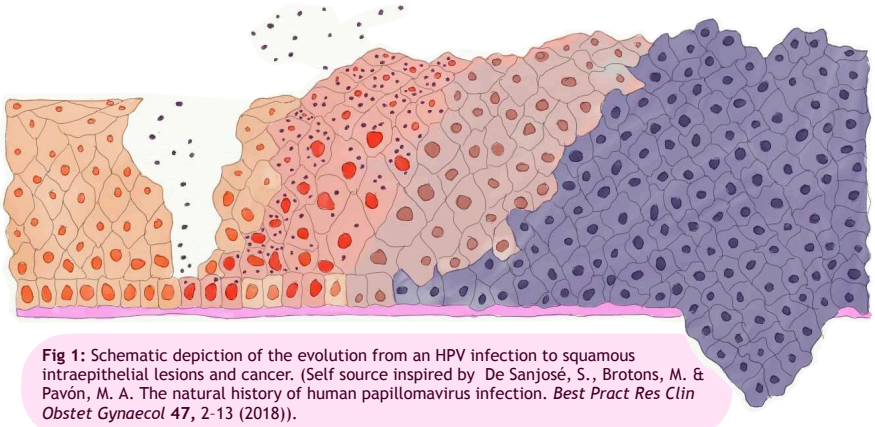


Fig 1: Schematic depiction of the evolution from an HPV infection to squamous intraepithelial lesions and cancer. (Self source inspired by De Sanjosé, S., Brotons, M. & Pavón, M. A. The natural history of human papillomavirus infection. *Best Pract Res Clin Obstet Gynaecol* **47,** 2–13 (2018)).

Methods

EduProjectHPV

Target audience of the project: vast majority of the population, but preferable young people (the highest infection prevalence is found in women less than 25 years old).

Chosen scientific dissemination format material:

2 Videos and a webpage in Spanish and English

Videos were an easily understandable and a rapidly releasable format. The information in the video was presented using a dissemination tool known as **Visual Thinking** (turning ideas into a colorful visually appealing format through easily recognized pictures and creating connections with the objective of a better understanding of the matter). Two different videos were created (a short version used for dissemination and an extended version used as educational material and then translated in English and Spanish.

Software used to create the video: VideoScribe® (visual content) and ReadSpeaker SpeechMaker® online tool (voice) and Logic Pro X® (audio).

Videos released through a Youtube Channel.

Webpage include **all the information used to prepare de video**. Software used: the virtual platform Wix®.

Results and conclusion of the dissemination

The aim of the project was arriving to reach the vast majority of the population but specially people less than 25 years old. The following data, obtained through Youtube® analytics the 31st may 2018, is the evidence that the objective has been achieved.

More than **754** youtube visits

67% women and 33% man

79% of the visits were 18 - 24 years old

More than **22 countries** including Spain (85%), Mexico (3,6%), Argentina (1,5%), Italy (2,7%), US (1,8%) and UK (0,4%)

References

(1) Safaeian, M. & Solomon, D. Cervical Cancer Prevention - Cervical Screening: Science in Evolution. *Obstet Gynecol Clin North Am* **34,** 739-ix (2007).
(2) Serrano, B., Brotons, M., Bosch, F. X. & Bruni, L. Epidemiology and burden of HPV-related disease. *Best Pract Res Clin Obstet Gynaecol* **47,** 14-26 (2018).
(3) Asociación Española de Patología Cervical y Colposcopia. Infección por el VPH. Available at: http://www.aepcc.org/infeccion-por-el-vph/
(4) Reducing your risk of cervical cancer | CESPHN. Available at: https://www.cesphn.org.au/news/latest-updates/57-enews/2285-reducing-your-risk-of-cervical-cancer-2.
(5) De Sanjosé, S., Brotons, M. & Pavón, M. A. The natural history of human papillomavirus infection. *Best Pract Res Clin Obstet Gynaecol* **47,** 2–13 (2018).

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