Knowledge, attitude, and practices (KAP) regarding vaccination against human papillomavirus (HPV) among young people, caregivers, and healthcare professionals (HCPs)

Poster #PCR253

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Background

- Human papillomavirus (HPV) infection is one of the most common sexually transmitted infections worldwide, with a prevalence of 10% among women worldwide.[1]
- In 2018, HPV infections were responsible for 690,000 cases of cancer worldwide, of which 620,000 cases were among women. Of these, 80% were HPV-related cervical cancer.[2]
- HPV vaccines were first approved in 2006 and are shown to be safe and effective in reducing the prevalence of HPV infections.[3,4,5] Despite this, certain countries, especially low- and middle-income ones, still haven't introduced the HPV vaccine in 2022.[6]
- Understanding the perspective of young people, caregivers, and healthcare professionals about HPV vaccination may provide insights on barriers against optimal HPV vaccine uptake.

Objective

- The objective of the research project is to understand the knowledge, attitudes and practices related to HPV vaccine from young people, caregivers, and healthcare professionals across various countries.

Methods

- A systematic literature review (SLR) of knowledge, attitudes, and practices (KAP) surveys related to HPV vaccination, published between January 2018 and October 2023, was conducted in Medline, Embase and Cochrane. Studies providing a quantitative assessment of KAP on HPV infection and vaccination were selected.
- Population eligible for vaccination was defined as children, students and adults who received or could have received the HPV vaccine.
- Healthcare providers included dentists, hygienists, nurses, pharmacists, physicians (general practitioners, pediatricians, gynecologists).
- The overall level of knowledge and attitude was classified as satisfactory, moderate and not satisfactory and positive, neutral/hesitant and negative, respectively, based on the assessment provided by the study itself or by our own assessment when not available. The following criteria were used to maintain consistency of knowledge and attitude assessments across studies:
  - If ≥75% of individuals had correct/positive answers or the scores were ≥ 75% of the maximum score, the results were classified as satisfactory knowledge and positive attitude, respectively.
  - If 50%-74% of individuals had correct/positive answers or the scores were between 50%-74% of the maximum score, the results were classified as moderate knowledge and neutral attitude, respectively.
  - If <50% of individuals had correct/positive answers or the scores <50% of the maximum score, the results were classified as not satisfactory knowledge and negative attitude, respectively.
- Study country classification by income level was done according to the World Bank classification.[7]

Results

- Among 2094 reviewed records, 77 studies were included, involving 167 KAP assessments.
- Only 44% of studies used a validated KAP instrument.
- Most of the studies assessed KAP related to HPV-related diseases and vaccination in people potentially eligible for vaccination (57%).

Figure 1. Study categorization

A. Interviewed population **B. Country income level**

- Knowledge was deemed satisfactory in 22%, 49% and 42% of assessments involving individuals eligible for vaccination, healthcare providers, and caregivers, respectively. More assessments noted a positive attitude towards HPV infection and vaccination (46%, 56%, and 58%, respectively). (Figure 1A)
- Men and women had satisfactory knowledge and positive attitude in similar proportions. (Figure 2)
- Studies from high-income countries showed higher proportion of satisfactory knowledge compared to middle- and low-income countries. (Figure 1B, Figure 2)

Figure 2. Proportion of individuals with satisfactory knowledge and positive attitude across subgroups

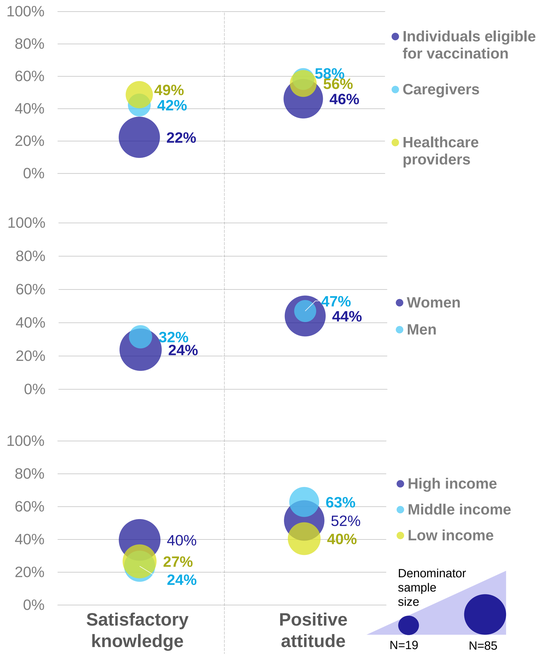


Figure 3. Rate of HPV vaccine uptake

Country	Population	Sample	
Brazil	High school student	287	93%
Spain	Nursing student	292	92%
Brazil	Children	109	82%
Ethiopia	Children	591	66%
USA	Adults	35	66%
USA	Adults	35	66%
USA	University student	263	55%
Malaysia	University student	240	48%
China	University student	195	47%
China	Medical Student	473	47%
Brazil	High school student	185	47%
Malaysia	Adults	392	39%
Vietnam	General population	379	38%
USA	High school student	26	35%
Japan	Adults	583	33%
Uganda	Children	524	28%
Vietnam	University student	137	27%
Brazil	Children	101	24%
USA	High school student	64	22%
Indonesia	General population	295	21%
Nigeria	University student	200	19%
USA	University student	186	15%
Vietnam	General population	113	11%
China	University student	466	10%
Kuwait	University student	611	9%
Albania	University student	503	8%
Indonesia	General population	105	6%
Nigeria	Adults	287	4%
China	Adults	4000	3%
Nigeria	University student	384	3%
China	Medical Student	549	2%
China	University student	967	2%
China	University student	532	2%
China	University student	414	2%
Cambodia	Adults	440	1%
China	Adults	1000	1%
Japan	General population	281	0%
Spain	Nursing student	75	0%
Nigeria	General population	305	0%
China	University student	414	0%
China	University student	532	0%

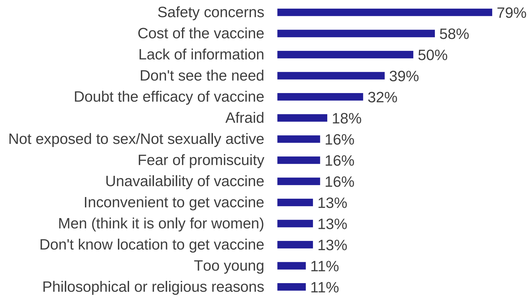
High-income
Middle-income
Low-income
Women
Men

Note: Only studies reporting rate of HPV vaccination separately between men and women are presented in the figure

HPV vaccination uptake and willingness to vaccinate

- Most studies (85%) reported low rates of HPV vaccination, in less than half of the interviewed population.
- The rates of vaccination appeared higher among women compared to men: 0% to 93% versus 0% to 47%. (Figure 3)
- Majority of studies indicated that less than half the interviewed population was vaccinated: 70%, 88%, and 96% of studies conducted in high-income, middle-income, and low-income countries, respectively. (Figure 3)
- Most of the assessments showed that more than half of the individuals were open to vaccination or were willing to vaccinate their children.
- Only 39% of assessments showed that majority of the interviewed healthcare providers would recommend HPV vaccination.

Figure 4. Most frequent barriers to HPV vaccination



Note: Only barriers reported in ≥10% of studies are presented in the figure

Discussion

- Most studies reported a positive attitude towards HPV vaccination, despite less than satisfactory knowledge of HPV-related diseases and vaccination. This translated into the high proportions of individuals willing to vaccinate themselves or their children observed across studies.
- The uptake of the HPV vaccine was generally low, for only 5% of the assessments indicating that ≥75% of the interviewed population had at least one dose of vaccine.
- Most frequently reported barriers to HPV vaccination among the unvaccinated population were safety concerns (79%), cost concerns (58%), lack of information (50%), belief that the vaccine was not needed (39%), and skepticism related to the vaccine efficacy (32%).
- Several studies proposed potential solutions to improve vaccine uptake. These referred to health education programs, promotion campaigns, inclusion of HPV vaccine in national immunization programs, governmental subventions, decrease of vaccine-associated costs, and school-based vaccination programs.

Conclusions

- Most studies highlighted low-moderate knowledge, neutral or positive attitude and poor practices regarding HPV vaccination.
- HPV vaccine uptake was low, especially in men compared to women and in middle- and low- income countries compared to high-income countries.
- The most frequent barriers to HPV vaccination, such as safety concerns, cost concerns, and lack of information could be addressed by implementation of health education programs, inclusion of HPV vaccination in national immunization programs, and governmental subventions.
- Continuous efforts should be made to increase public awareness, engage healthcare providers to actively promote disease preventions, reduce vaccine misperceptions and diminish the barriers to HPV vaccination.

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