

1. TITLE:

Assessing Knowledge, Attitude, and Practice (KAP) Towards Cervical Cancer and HPV Vaccination Among College Students

2. INTRODUCTION:

Cervical cancer is the fourth most common cancer among women globally, with over 604,000 new cases and 342,000 deaths reported in 2020. The majority of this burden falls on low- and middle-income countries (LMICs), where nearly 90% of deaths occur [1,2]. India contributes significantly to this global burden, reporting approximately 123,907 new cases and 77,348 deaths annually [3].

Persistent infection with high-risk human papilloma virus (HPV), particularly types 16 and 18, is the primary cause of cervical cancer, responsible for nearly 70% of cases [4,5]. Preventive strategies focus on HPV vaccination and early screening methods like Pap smear, VIA, and HPV DNA testing [6,7]. Despite the availability of effective vaccines, coverage in India remains low due to limited awareness, sociocultural taboos, and financial constraints [8–10].

In 2022, the WHO revised its guidelines to recommend a single-dose HPV vaccine for girls aged 9–14 years, enhancing feasibility in LMICs [11]. The introduction of India's indigenous quadrivalent vaccine, CERVAVAC, priced affordably, aims to improve access through national immunization programs [12].

The WHO's 90–70–90 strategy—vaccinating 90% of girls, screening 70% of women, and treating 90% of cases—is a global initiative to eliminate cervical cancer as a public health problem by 2120 [1]. Countries like Australia are on track to achieve this goal due to high vaccine uptake [13].

College students, particularly young women, represent a key demographic for targeted HPV awareness and prevention efforts. Several studies have highlighted low awareness and vaccine uptake among Indian college students, despite moderate levels of knowledge, even among medical students [14,15]. Including male students in HPV

education is also important, as HPV can cause other cancers and genital warts in men [16,17].

This study aims to assess the knowledge, attitude, and practice (KAP) regarding cervical cancer and HPV vaccination among college students, identify gaps and barriers, and contribute to effective national-level HPV prevention strategies aligned with WHO goals.

3. RESEARCH QUESTIONS:

What is the current level of knowledge, attitude, and practice (KAP) regarding cervical cancer and HPV vaccination among college students at IIHMR College?

4. OBJECTIVES:

- To assess the knowledge level of college students about cervical cancer and HPV vaccination.
- To evaluate the attitude of students towards HPV vaccination and cervical cancer prevention.
- To determine the preventive practices followed by students related to HPV and cervical cancer.
- To identify gaps and barriers that hinder awareness and vaccine uptake among students.
- To recommend strategies for enhancing awareness and vaccine acceptance.

5. RESEARCH HYPOTHESIS:

Null Hypothesis (H_0): There is no significant association between students' demographic characteristics and their knowledge, attitude, and practice regarding cervical cancer and HPV vaccination.

Alternative Hypothesis (H_1): There is a significant association between students' demographic characteristics and their knowledge, attitude, and practice regarding cervical cancer and HPV vaccination.

6. MATERIAL AND METHODS:

STUDY DESIGN: Descriptive cross-sectional study

STUDY PLACE: The study will be conducted at IIHMR College.

STUDY POPULATION: College students enrolled at IIHMR during the study period.

A. Inclusion Criteria:

- Students aged above 20 years
- Currently enrolled at IIHMR College
- Willing to participate and able to provide informed consent

B. Exclusion Criteria:

- Individuals who do not meet the age requirement or are not enrolled at IIHMR College
- Those who decline to participate or do not provide informed consent
- Participants who submit incomplete or invalid survey response.

C. Study Tool:

- Participant informed Consent Form, Participant demographical details, KAP (Knowledge, Attitude, Practice) Questionnaire

✓ Knowledge Section (11 questions):

- General awareness
- Risk factors and symptoms
- HPV & vaccination awareness

✓ Attitude Section (8 questions):

- Vaccine safety, importance
- Risk perception
- Training & societal influence

✓ Practice Section (6 questions):

- Recommendation & promotion of HPV vaccination

DURATION OF THE STUDY:

The study will be conducted over a period of Three months

SAMPLE SIZE:

To be calculated based on the target student population at IIHMR; for the synopsis, an estimated sample of 200 students will be considered.

SAMPLING TECHNIQUE:

Convenient sampling method will be used for participant selection.

DATA COLLECTION PROCEDURE:

- ✓ Data will be collected through a structured KAP survey questionnaire administered in person or online.
- ✓ Prior to filling out the questionnaire, students will be briefed about the study and asked to provide informed consent.
- ✓ A short survey description will be attached to the questionnaire, explaining the purpose of the study, ensuring confidentiality of personal information, and informing participants that they can withdraw at any time. Demographic details will be recorded prior to administering the questionnaire, which includes:

- **Knowledge Section (12 questions):**
 - General awareness
 - Risk factors and symptoms
 - HPV & vaccination awareness
- **Attitude Section (8 questions):**
 - Vaccine safety, importance
 - Risk perception
 - Training & societal influence
- **Practice Section (6 questions):**

Recommendation & promotion of HPV vaccination

OPERATIONAL DEFINITIONS

- **Cervical Cancer:** A preventable and treatable cancer of the cervix, mainly caused by persistent infection with high-risk HPV types.
- **HPV (Human Papillomavirus):** A common virus transmitted through sexual contact, with certain types leading to cervical and other cancers.
- **HPV Vaccination:** A preventive measure using vaccines (bivalent, quadrivalent, or nonavalent) to protect against HPV infection and related diseases.
- **Knowledge:** Participants' understanding of cervical cancer, HPV, and vaccination.
- **Attitude:** Participants' beliefs and perceptions regarding cervical cancer prevention and HPV vaccination.
- **Practice:** Actual behaviors related to cervical cancer prevention, such as screening and vaccination.
- **KAP Survey:** A structured online questionnaire used to evaluate participants' knowledge, attitude, and practice.

DATA ANALYSIS PLAN:

- Data will be compiled in **Microsoft Excel**. Statistical analysis will be performed using **SPSS version 29**.
- Descriptive statistics (frequency, percentage, mean, standard deviation) will be used for KAP responses. Inferential statistics (Chi-square test, correlation) will be used to analyze associations between demographic variables and KAP scores.

ETHICAL CONSIDERATIONS:

- Ethical approval for the study will be obtained from the Ethics Committee of IIHMR College.
- Participation will be voluntary.
- **Anonymity and confidentiality** of participants will be strictly maintained.
- The survey will clearly state that there are no risks or personal benefits from participation, and participation is for academic purposes only.

IMPLICATION OF THE RESEARCH:

This study will provide insight into the current awareness, attitude, and practices of college students toward cervical cancer prevention and HPV vaccination. The findings may assist in shaping awareness campaigns, educational programs, and national immunization strategies in line with WHO goals for cervical cancer elimination.