

APPLE STRATEGY for HPV Vaccination Acceptance Among Teenage Girls in LMIC



Dr. Prof. Rajkumar Rajamanickam MD, PhD

Dept. Of Community Medicine &

Research Collaborator- IARC / WHO

Meenakshi Medical College Hospital & Research Institute, Kanchipuram, TN, India

Affiliated to Meenakshi Academy of Higher Education & Research-MAHER, Chennai, Tamil Nadu, India

Introduction: The strategy known as Awareness, Prevention, Protection, Leadership, and Empowerment (APPLE) represents a comprehensive and all-encompassing global approach aimed at combatting the prevalence of Human Papilloma virus (HPV), a highly significant public health concern that has been strongly linked to the occurrence of cervical cancer and various other malignancies within the human population. This strategic framework places a strong emphasis on the implementation of universal vaccination programs, the establishment of robust screening initiatives, as well as the development of educational campaigns that are designed to enhance public awareness and encourage preventive measures(1).

Through the integration of these key elements, the APPLE strategy strives to effectively diminish the overall global incidence rates of HPV-related diseases, with a particular focus on regions characterized by limited healthcare resources, such as low- and middle-income countries. The ultimate success of this strategic approach is contingent upon fostering international cooperation, ensuring sustained financial support, and adapting programmatic efforts to suit the specific contexts of diverse localities(2).

This multifaceted and comprehensive approach is specifically designed to generate a lasting and sustainable impact on global health outcomes(3). By harnessing the most recent advancements in the realms of medical research and community-based health interventions, the APPLE strategy endeavours to achieve a substantial reduction in the prevalence of HPV-associated cervical cancer cases. Notably, this strategic framework aligns closely with the overarching global health objectives outlined by the World Health Organization, with a strong emphasis on the importance of early detection methods and preventive measures. Given the considerable burden of cervical cancer borne by the population of India, the implementation of this initiative is deemed essential in effectively mitigating the adverse impact of this disease on public health outcomes(4,5).

Objectives

1. To estimate the levels of knowledge, attitude, and practice concerning the HPV vaccine among medical students.
2. To identify the deficiencies and barriers affecting HPV vaccination uptake and implementation.
3. To deliver comprehensive health education using APPLE strategy to enhance understanding and empower participants to make informed choices regarding their health.
4. To measure the impact of health education interventions.

Methodology

Type of Study: Cross-sectional Study

Place of study: Tertiary care hospital in Kanchipuram

Study duration: 3 months (From the date of approval in 2025)

Study Population: UG and PG female medical students of tertiary care hospital.

- i. Inclusion criteria: UG and PG female medical students of all semesters and all professional years.
- ii. Exclusion criteria: Students who are not willing to participate in the study.

Sample size: 430 medical students

Sampling method:

Medical students will be selected by using Simple random sampling technique.

Data collection and intervention:

Health education will be provided using the APPLE (Awareness and Acceptance, Practice and Promote, Perseverance and Propagate, Learn and Lifestyle, Efficacy and Empowerment) strategy.

This process will be carried out for three months. Subsequently, a re-assessment is done after obtaining informed consent, the students would undergo an interview using the KAP (Knowledge, Attitudes, and Practices) questionnaire. This will help in determining any changes or improvements in the targeted areas.

Health education intervention on the participant's Knowledge, Attitudes, and Practices (KAP) concerning HPV vaccination will be measured. This comprehensive evaluation will help in determining the intervention's effectiveness in enhancing their understanding, altering their attitudes, and improving their practices related to HPV vaccination.

All the input from the study would be used to enhance and improve the HPV vaccination program at the medical college.

Data collection tools:

A Validated Semi-Structured KAP Questionnaire.

Implementation:

1. The implementation of the above project will be carried out by the investigator, who will be supported by the assistance of student volunteers.
2. The tools to be utilized will include the KAP questionnaire, which will be employed for both pretest and post-test evaluations. This approach will ensure a detailed assessment of the knowledge, attitudes and practices of the participants both before and after the intervention.
3. Health education materials, including PowerPoint presentations, visual charts, and interactive resources, will be utilized to effectively demonstrate the principles and strategies of the APPLE approach.
4. Medical students not present for the session will be excluded from the study.
5. One session will be held monthly for 3 months, the students who attend at least one session will be included. The students who do not attend at least one session will be excluded from the study.

Data analysis:

- i. Data once collected will be entered in Microsoft Excel and analysis will be done using SPSS software Version 23.
- ii. The impact of intervention, i.e., health education using the APPLE strategy among medical students will be assessed using a post-assessment KAP questionnaire.
- iii. Outcome scoring – Pre assessment and post-assessment scores will be compared and expressed in terms of percentages.

Implications

- Assessing the knowledge and attitude of medical students concerning HPV vaccination will help in understanding the challenges and barriers to HPV vaccination among the targeted population.
- Assessing the practice of medical students concerning HPV vaccination before and after implementing the health education using the APPLE strategy will help in understanding the impact of the intervention.
- To enhance vaccination coverage rates and effectively address challenges related to completing the full dosage schedule, APPLE STRATEGY will be advocated, locally and Globally, to achieve the WHO Goal of “ Elimination of Cervical Cancer by 2030 “..

References

1. World Health Organization. Human Papillomavirus (HPV) and Cervical Cancer. Geneva: World Health Organization; 2020. Available from: <https://www.who.int/publications/i/item/9789240014107>.
2. UNICEF. Global HPV Vaccine Introduction Overview. New York: United Nations Children's Fund; 2021.
3. GAVI. The Vaccine Alliance: Human Papillomavirus (HPV). Geneva: Global Alliance for Vaccines and Immunization; 2022.
4. Basu P, Mittal S, Banerjee D, Singh P. HPV vaccination in India: Balancing evidence and policy. J Glob Oncol. 2020;6:133-141.
5. World Health Organization. Global strategy to accelerate the elimination of cervical cancer as a public health problem. Geneva: World Health Organization; 2020. Available from: <https://www.who.int/publications/i/item/9789240014107>.
6. Malavika J.C. Rashmi Hegde. 2022. Knowledge and awareness of HPV virus and HPV vaccine among medical students. 11(10):2754-2759. DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20222473>.