

A Pre - Experimental Study to Assess the Effectiveness of Amber Alert Program on Knowledge and Attitude Regarding Human Papilloma Virus and Human Papilloma Virus Vaccination among Nursing Students in Selected College in Chennai

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Abstract - Human Papillomavirus (Human papilloma virus) is a significant public health concern globally, particularly in developing countries, as it is the leading cause of cervical cancer and other cancers. Vaccination against Human papilloma virus is highly effective in preventing these diseases, yet awareness and uptake remain low due to a lack of knowledge and misconceptions. Nursing students, as future healthcare professionals, play a vital role in advocating for vaccination and educating the public. **AIM:** This pre-experimental study aimed to assess the effectiveness of the Amber Alert Program in enhancing the knowledge and attitudes of nursing students regarding Human papilloma virus and its vaccination **METHOD:** The research approach was quasi-experimental involving one-group pretest and post-test design, involving 50 first-year nursing students selected through nonprobability convenience sampling. The Amber Alert Program included engaging educational materials such as a PowerPoint presentation, a cartoon video, and pamphlets. The program was implemented over a 45–60-minute session. Data collection was conducted using structured questionnaires and attitude scales before and after the intervention. **RESULTS:** Pre-test results indicated that only 4% of students had excellent knowledge of Human papilloma virus and its vaccine, and 24% demonstrated a high positive attitude. In contrast, post-test findings showed significant improvement, with 20% of students achieving excellent knowledge and 60% exhibiting a high positive attitude. The mean knowledge score in the pre-test was 1.52 (SD = 0.65), which increased to 2.36 (SD = 0.69) in the post-test, resulting in a mean difference of 0.84. Statistical analysis using paired t-tests revealed a significant improvement

in knowledge and attitudes (t-value = 12.70, $p < 0.05$).

CONCLUSION: The study concluded that the intervention proved to be highly effective in bridging knowledge gaps and fostering positive attitudes towards Human papilloma virus vaccination among participants

Index Terms- Effectiveness, Amber Alert, Human Papilloma Virus, Human Papilloma Virus Vaccination

INTRODUCTION

Human Papillomavirus (HPV) is the most common sexually transmitted infection globally and a major cause of cervical cancer, especially in developing countries. Despite the availability of effective vaccines (Cervarix, Gardasil, Gardasil-9), awareness and uptake remain low. HPV types 16 and 18 are strongly linked to cancers, while types 6 and 11 cause genital warts. Transmission occurs primarily through sexual contact, close skin contact, and occasionally fomites.

Globally, nearly 76% of sexually active individuals are infected during their lifetime. In India, cervical cancer is the third most common cancer, with over 96,000 new cases and 60,000 deaths annually, accounting for one-fifth of the global burden. The WHO recommends:

90% HPV vaccination coverage of girls by age 15

70% screening at ages 35 and 45

90% treatment for detected cases by 2030

Despite proven safety and efficacy, challenges such as cost, lack of knowledge, misconceptions, and cultural barriers hinder HPV vaccine uptake. Healthcare professionals play a key role in addressing these issues. Nursing students, as future frontline health educators, must have accurate knowledge and a positive attitude to advocate vaccination and preventive healthcare.

NEED FOR THE STUDY

Cervical cancer is largely preventable through vaccination and screening. India, however, faces significant gaps in awareness and vaccine acceptance. Studies show that targeted educational programs and provider recommendations improve uptake. Nursing students, as future healthcare providers, can bridge knowledge gaps and shape community perceptions effectively.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of the Amber Alert Program on the knowledge and attitudes regarding HPV and HPV vaccination among nursing students at selected colleges.

OBJECTIVES

1. To assess pre- and post-test knowledge and attitudes of nursing students regarding HPV and its vaccination.
2. To compare pre- and post-test findings.
3. To determine the effectiveness of the Amber Alert Program on knowledge and attitudes.
4. To associate effectiveness with selected demographic variables.

REVIEW OF LITERATURE

A review of studies relevant to HPV and vaccination highlights trends, gaps, and implications for the present study.

National Studies

Kumar et al. (2022): 80% of medical students aware of HPV, only 35% vaccinated due to misconceptions.

Singh et al. (2020) & Gupta et al. (2018): 70–75% knew about HPV, less than one-third vaccinated, barriers include cost and access.

Other Indian studies (Jain et al., 2017; Sharma et al., 2016; Chatterjee et al., 2015) reported vaccination rates 5–20%.

International Studies:

Chen et al. (2023) in Taiwan & Martinez & Liu (2022) in Spain: limited awareness, fear of side effects as barriers.

Kim & Zhang (2021), O'Brien et al. (2021): knowledge and attitude improved after educational interventions.

Gender disparities observed: males less informed and less vaccinated (Brown et al., 2020; Singh & Ahmed, 2019).

Educational interventions consistently improved knowledge and vaccination intention (Silva et al., 2018; Garcia et al., 2016; Nguyen & Tran, 2016).

Healthcare students are key influencers; structured educational interventions significantly improve awareness and uptake.

RESEARCH METHODOLOGY

Approach: Quantitative

Design: Pre-experimental, one-group pre-test–post-test

Variables:

Independent: Amber Alert Program (PowerPoint, pamphlets, cartoon videos)

Dependent: Knowledge and attitude of nursing students regarding HPV vaccination

Extraneous: Age, gender, course, marital status, personal experiences

Setting: Vijaya College of Nursing

Population & Sample: 1st-year nursing students, N=30, non-probability convenient sampling

Inclusion Criteria: Students available during data collection, not vaccinated, no prior knowledge

Exclusion Criteria: Married students, unwilling participants, health issues

Intervention – Amber Alert Program (45–60 min):
 PowerPoint (25 min): HPV definition, causes, risk factors, prevention, vaccination, Q&A
 Cartoon Video (8 min): Engaging visual storytelling
 Pamphlet (5 min): Summary of HPV and vaccination benefits
 Instrument:
 Part I: Demographics (religion, exercise habits, family type, food pattern, residence, income)

Part II: Structured questionnaire & attitude scale on HPV and vaccination
 Part III: Intervention materials
 Data Collection: Pre-test → Amber Alert Program → Post-test after 1 week
 Data Analysis: Descriptive & inferential statistics

DATA ANALYSIS AND INTERPRETATION

The study evaluated knowledge and attitude among nursing students (N=30). Most participants were 18 years old (68%), female (100%), from nuclear families (56%), and non-vegetarian (60%).

TABLE:1 Pre and post - test level of mean knowledge score SD and mean difference and t value of samples in study group.

S.No	Measurement	Value (f)	Mean	Mean Difference	SD	T-Value	(df) Table value
1	POST-TEST	10	1.90	0.52	0.70	4.10	3.90
2	PRE-TEST	2	1.38		0.56		

DISCUSSION

The present study was conducted to determine the effectiveness of the Amber Alert Program on knowledge and attitude regarding Human Papilloma Virus (HPV) and its vaccination among nursing students.

Demographic Findings

Among 50 participants, most were 18 years (68%), Hindu (50%), and from nuclear families (56%). Exercise habits showed 56% exercised regularly (20% walking, 20% home workouts, 16% others), with 30% exercising less than 30 minutes. Regarding food patterns, 60% were non-vegetarian. Most resided in urban areas (40%) and belonged to the middle socioeconomic class(60%).

Knowledge Assessment

Pre-test: 4% had excellent knowledge, 30% good, and 66% “try better.”

Post-test: 20% excellent, 50% good, and only 30% remained “try better.”

This shows a clear improvement in knowledge after the program.

Attitude Assessment

Pre-test: 40% showed low positive attitude, 24% high positive.

Post-test: Low positive decreased to 16%, while high positive rose to 60%.

This indicates the program positively influenced attitudes toward HPV vaccination.

Effectiveness of Amber Alert Program

The mean knowledge score increased from 1.52 (SD 0.65) to 2.36 (SD 0.69) with a mean difference of 0.84. A paired t-test (t = 12.70, p < 0.001) confirmed statistical significance, proving the intervention was effective.

Association with Demographic Variables

Pre-test knowledge & attitude: No significant association with age, gender, religion, exercise, family type, food pattern, residence, or socioeconomic status.

Post-test knowledge & attitude: Significant association with these demographic variables (p < 0.05).

SUMMARY AND CONCLUSION

Summary

Human Papillomavirus (HPV) is a highly contagious sexually transmitted infection linked to cervical, anal, oropharyngeal, penile, vulvar, and vaginal cancers, as well as genital warts. HPV vaccination has emerged as a safe, effective, and well-tolerated preventive measure, especially when administered before exposure (preteen and teenage years). Research confirms its long-term protection, reduction of HPV-related disease burden, and cost-effectiveness. Despite these benefits, misconceptions persist, highlighting the need for public awareness, education, and equitable vaccine access.

Conclusion

The study confirms that HPV vaccination:

Significantly reduces HPV-related cancers and diseases.

Is safe, well-tolerated, and highly effective before HPV exposure.

Provides long-term protection and lowers healthcare costs.

Therefore, it is vital to:

Promote HPV vaccination among preteens, teens, and young adults.

Address misconceptions through education and awareness.

Ensure equitable access regardless of socioeconomic or geographic factors.

Nursing Implications

Nursing Practice: Findings highlight the importance of providing HPV health awareness to 18–26-year-olds, strengthening their knowledge and preventive practices.

Nursing Education: Supports integrating HPV-focused education, training programs, and awareness modules into nursing curricula.

Community Health: Encourages campaigns in hospitals, schools, and public spaces to promote vaccine acceptance and improve protection.

Nursing Research: Serves as a baseline for future studies evaluating educational interventions to enhance HPV awareness and prevention.

RECOMMENDATIONS

1. Replicate the study on a larger scale for broader generalization.
2. Develop effective communication strategies to promote HPV vaccination.
3. Conduct studies using control groups for stronger comparisons.
4. Compare structured teaching programs with alternative educational methods for cervical cancer prevention.
5. Explore different research designs to strengthen evidence.

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