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Assess the knowledge and attitude of hpv vaccine Among non-medical undergraduate students at chennai

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Abstract

Introduction: Cervical cancer is one of the leading gynecologic cancers globally, ranked 4th among all cancers in women. It significantly affects women's physical, emotional, and financial well-being. Diagnosis and treatment can disrupt daily life, relationships, and careers. This study aims to assess the knowledge and attitude toward the HPV vaccine among non-medical undergraduate students.

Methodology: A total of 358 undergraduate students were selected from Dwaraka Doss Govardhan Doss Vaishnav College in Chennai. Data was collected using an interview method with a structured questionnaire designed by the researcher to assess knowledge, and a 3-point Likert scale was developed to assess attitudes. Descriptive and inferential statistics were used for data analysis.

Results: The study showed that 83% of students had inadequate knowledge about the HPV vaccine, with only 13% demonstrating moderate knowledge. Additionally, 77% of students exhibited a negative attitude toward vaccination. The mean knowledge score was 1.20 (SD = 0.44), and the mean attitude score was 1.22 (SD = 0.47), indicating poor knowledge and attitudes. A positive correlation ($r = 0.32$, $p = 0.001$) was found between knowledge and attitude, suggesting that lack of knowledge contributes to negative attitudes toward the HPV vaccine.

Conclusion: Non-medical students show a lack of knowledge and negative attitudes toward the HPV vaccine. Implementing awareness programs in colleges can improve knowledge, foster positive attitudes, and increase vaccine acceptance among students.

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Introduction

Women's health encompasses physical, mental, and social well-being and is influenced by biological, social, cultural, and economic factors. Access to reproductive health services, including family planning and safe abortions, is crucial for women's autonomy, while social inequalities such as poverty, lack of education, and gender disparities significantly affect health outcomes. Promoting awareness and education about women's health issues is essential to empower women to make informed decisions about their health. Cervical cancer is one of the most common gynaecologic cancers globally and imposes substantial physical, emotional, and financial burdens. Each year, hundreds of thousands of new cases are diagnosed worldwide, with many deaths occurring in low- and middle-income countries due to limited access to preventive services such as screening, vaccination, and treatment. High-risk HPV types, particularly HPV16 and HPV18, are the primary causes of cervical cancer. While most HPV infections are cleared naturally by the immune system, persistent infections can progress to precancerous lesions and eventually cancer. Early detection through regular screening and timely intervention can significantly reduce the burden of cervical cancer and improve outcomes.

HPV vaccination is a safe and highly effective preventive measure, capable of preventing the majority of HPV-related cancers. Young women between the ages of 15 and 26 are the primary target group for vaccination. Despite the availability of the HPV vaccine, awareness and uptake remain low among non-medical college students due to cultural beliefs, societal norms, lack of information, and misconceptions about safety and side effects. Educational programs, awareness campaigns, and accessible vaccination services are essential to improve knowledge, attitudes, and uptake of the vaccine among this group.

College students represent a critical population for preventive interventions, as vaccinating them can protect against future HPV infections or reinfections. By understanding the gaps in knowledge and misconceptions, targeted strategies can be developed to enhance acceptance of HPV vaccination and promote preventive health behaviors. Evaluating awareness and attitudes among non-

medical students is especially important, as they may have less exposure to health-related education compared to medical students. Given the high burden of cervical cancer and the importance of vaccination in prevention, it is essential to evaluate knowledge and attitudes toward the HPV vaccine among non-medical undergraduate students. Understanding these gaps can guide educational interventions and improve vaccine uptake, ultimately reducing the risk of HPV-related cancers in the future.

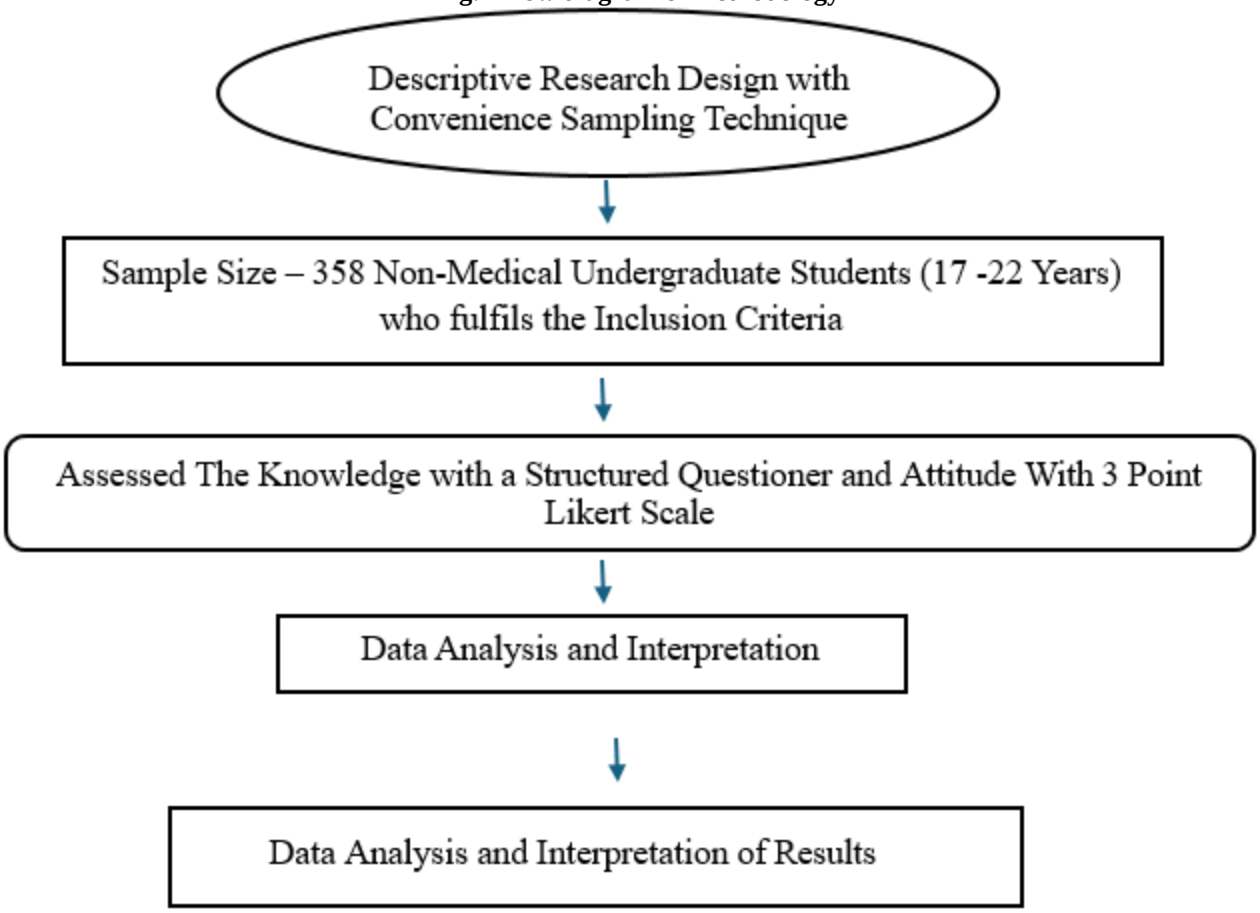
Aim Of The Study

To assess the knowledge and attitudes of non-medical undergraduate students toward the HPV vaccine.

Methods And Materials

Quantitative research approach was employed to assess the knowledge and attitudes of non-medical undergraduate students regarding the HPV vaccine using a descriptive research design. The independent variable was the HPV vaccine, and the dependent variables were students' knowledge and attitudes. The study was conducted at Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai, among 358 non-medical undergraduate students from the Department of Sociology. The sample size of 350 was determined using power analysis and selected through convenience sampling. Inclusion criteria were students aged 17–22 years, fluent in Tamil and English, and willing to participate, while students unwilling to participate, lacking formal education, or allergic to any drugs were excluded. Data were collected using a demographic proforma, a 20-item multiple-choice knowledge questionnaire, and a 10-item 3-point Likert scale for attitude. Content validity was ensured by expert review, and reliability was confirmed through a pilot study with 35 students (r = 0.96 for knowledge, 0.84 for attitude). Ethical approval was obtained, informed consent and confidentiality were maintained, and participation was voluntary. The pilot study confirmed the feasibility and reliability of the methodology.

Fig.1 Flow diagram of methodology



Statistical Analysis

Table 1: Analysis of Demographic Variables

Age, Sex , Marital status, Type of the family and place of residence among study participants.

Demographic variables	Frequency (N=358)	Percentage (%)
Age		
17	57	16
18	73	20
19	59	16
20	85	24
21	49	14
22	35	10
Sex		
Male	94	26
Female	264	74
Marital status		
Single	317	89
Married	37	10
Widow /divorcee	4	1
Type of the family		
Joint	59	16
Nuclear	299	84
Place of residence		
Urban	221	62
Rural	137	38

Among the non-medical undergraduate students, most were 20 years old, with females predominating (264, 74%). The majority were single (317, 89%), from nuclear families (299, 84%), and resided in urban areas (221, 76%).

Table 2:Distribution of Knowledge among the population

Knowledge	Frequency (N=358)	Percentage (%)
Inadequate	298	83
Moderate	48	13
Adequate	12	4

Most non-medical undergraduate students demonstrated inadequate knowledge about the HPV vaccine, with 298 students (83%), while 48 students (13%) had moderate knowledge. This highlights a significant lack of awareness regarding the HPV vaccine in the study group.

Table 3: Distribution of Attitude among the population

Attitude	Frequency (N=358)	Percentage (%)
Poor	277	77
Good	81	23

Analysis of student attitudes showed that most non-medical undergraduate students, 277 (77%), had a poor attitude toward the HPV vaccine, reflecting insufficient awareness and the need for educational interventions to improve vaccination acceptance.

Table 4: Assess the Knowledge and Attitude among population

Variables	Mean	SD
Knowledge	1.20	0.44
Attitude	1.22	0.47

Most non-medical undergraduate students demonstrated inadequate knowledge (298, 83%) and poor attitude (277, 77%) toward the HPV vaccine. The mean knowledge score was 1.20 (SD = 0.44) and the mean attitude score was 1.22 (SD = 0.47), indicating low awareness. These findings suggest that improving knowledge may positively influence attitudes toward vaccination.

Table 5: Correlation of Knowledge and Attitude among the population

Variables	*r* – value	*p*-value
Knowledge and Attitude	0.32	**0.001***

The correlation analysis between knowledge and attitude toward the HPV vaccine among non-medical undergraduate students revealed a positive relationship, with an r-value of 0.32 and a p-value of 0.001, indicating statistical significance. This suggests that inadequate knowledge contributed to the poor attitude observed in the study group.

Discussion

The analysis revealed that most non-medical undergraduate students were 20 years old, female (74%), single (89%), from nuclear families (84%), and residing in urban areas (76%). Knowledge regarding the HPV vaccine was inadequate in 83% of students, with a mean score of 1.20 (SD = 0.44), indicating low awareness and understanding of the vaccine.

A majority of students (77%) exhibited a poor attitude toward HPV vaccination, with a mean attitude score of 1.22 (SD = 0.47). Correlation analysis showed a statistically significant positive relationship between knowledge and attitude (r = 0.32, p = 0.001), suggesting that insufficient knowledge contributed to negative attitudes.

These findings are consistent with previous studies (Alsulami, 2024; Khatiwada et al., 2021) and highlight the need for targeted educational interventions, awareness campaigns, and integration of HPV-related content into college curricula. Improving knowledge may reduce misconceptions, enhance attitudes, and increase acceptance of HPV vaccination, supporting the study hypothesis (H1).

Results

The study explored the knowledge and attitudes of non-medical undergraduate students regarding the HPV vaccine. The findings revealed that most students had limited awareness about HPV infection, its transmission, and the preventive benefits of vaccination. Knowledge regarding the HPV vaccine was generally low, reflecting gaps in understanding about its role in preventing cervical and other HPV-related cancers.

Attitudes toward vaccination were largely unfavourable, with many students expressing hesitation or lack of interest in receiving the vaccine. Analysis indicated a positive relationship between knowledge and attitude, suggesting that increased awareness and understanding were associated with more favourable perceptions toward vaccination. These results highlight the need for targeted educational programs and awareness initiatives to improve both knowledge and attitudes, promoting informed decision-making and greater acceptance of HPV vaccination.

Conclusion

Vaccination is a key public health measure for preventing infectious diseases and reducing health risks. The study revealed that non-medical undergraduate students have limited knowledge and generally poor attitudes toward the HPV vaccine, indicating hesitancy and lack of awareness about its benefits. The positive relationship between knowledge and attitude suggests that increasing awareness can foster more favourable perceptions and willingness to vaccinate.

These findings highlight the need for educational programs, awareness campaigns, and inclusion of HPV-related information in college curricula to improve understanding and attitudes. Enhancing knowledge among students can encourage informed decision-making, increase vaccine acceptance, and contribute to the prevention of HPV-related diseases, supporting long-term health outcomes.

Limitations

- The results may not be generalizable to all non-medical undergraduate students.
- Data collected through self-reporting could be affected by bias.

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