



“A Cross-Sectional Study On HPV Vaccine Awareness And Attitude Among Adolescent Girls”

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Abstract: This cross-sectional study aims to assess the awareness, attitude, and factors influencing HPV vaccination decisions among Adolescent girls aged 13–18 years in selected schools in Coimbatore. A total of 200 young girls were surveyed using a structured, pre-validated questionnaire. The results revealed that 90% of participants had heard of HPV, and 80% were aware of the HPV vaccine. However, only 60% understood that the vaccine prevents cancer, with gaps in awareness regarding its full protective benefits. Regarding attitudes, 75% of participants believed the vaccine was important, and 65% expressed willingness to get vaccinated. Parental support emerged as a key factor influencing vaccination decisions, with 80% reporting parental encouragement. Peer influence (50%), belief in the vaccine's effectiveness (75%), and concerns about side effects (20%) were also significant factors in decision-making. Cost of the vaccine was less of a concern, as 75% of participants did not see it as a barrier. The study highlights the need for targeted educational interventions to address misconceptions about HPV, its vaccine, and safety concerns, aiming to increase vaccination uptake and prevent HPV -related diseases in future generations.

Index Terms - HPV vaccination, adolescent girls, awareness, attitude, parental support, vaccine effectiveness, peer influence , Vaccination decision.

INTRODUCTION

HUMAN PAPILLOMAVIRUS (HPV) IS ONE OF THE MOST COMMON SEXUALLY TRANSMITTED INFECTIONS GLOBALLY, WITH CERTAIN STRAINS BEING LINKED TO CERVICAL CANCER AND OTHER TYPES OF CANCERS, AS WELL AS GENITAL WARTS. THE INTRODUCTION OF THE HPV VACCINE HAS PROVIDED A PREVENTATIVE MEASURE, ESPECIALLY FOR ADOLESCENT GIRLS, WHO ARE AT A CRITICAL AGE FOR RECEIVING THE VACCINE. DESPITE THE AVAILABILITY OF THE HPV VACCINE, ITS UPTAKE REMAINS SUBOPTIMAL IN MANY PARTS OF THE WORLD. UNDERSTANDING THE AWARENESS AND ATTITUDES TOWARDS HPV VACCINATION AMONG ADOLESCENT GIRLS IS CRUCIAL FOR IMPROVING VACCINATION RATES AND REDUCING THE BURDEN OF HPV-RELATED DISEASES.

The adolescent period represents a pivotal time for the implementation of public health strategies aimed at preventing HPV infections. However, the effectiveness of these strategies depends largely on the knowledge, awareness, and attitudes of both the girls and their caregivers.

Need for the Study:

Vaccination against HPV can significantly reduce the risk of cervical cancer, a major health concern for women worldwide. According to the World Health Organization (WHO), cervical cancer remains the fourth most common cancer among women globally, with an estimated 570,000 new cases and 311,000 deaths in 2018. Early vaccination is crucial because it is most effective when administered before the onset of sexual activity.

Despite the proven efficacy of the HPV vaccine, the awareness of HPV and the willingness to get vaccinated varies significantly. In many low- and middle-income countries, vaccination rates remain disappointingly low due to various barriers, including lack of information, cultural beliefs, and misconceptions surrounding the vaccine. In addition, parental consent and healthcare system-related challenges also affect the uptake of the vaccine.

This study is necessary to assess the awareness and attitudes towards HPV vaccination among adolescent girls and understand the factors that influence their decision to get vaccinated. By identifying the gaps in knowledge and attitudes, targeted interventions can be developed to increase vaccination rates.

Statement of the Problem:

“A Cross-Sectional Study on HPV Vaccine Awareness and Attitude among Adolescent Girls”

Objectives:

1. To assess the level of awareness regarding HPV and the HPV vaccine among adolescent girls.
2. To examine the attitudes of adolescent girls towards HPV vaccination.
3. To identify the factors influencing the decision of adolescent girls to accept or decline the HPV vaccine.
4. To associate the findings with the demographic variables.

Hypothesis:

H₁ There is a significant association between demographic variables (such as age, educational level, parental education, and source of information) and the level of awareness about HPV vaccination among young girls.

H₂ There is a significant association between the level of awareness and the attitude towards HPV vaccination among young girls.

Research Methodology

Research Design: Descriptive cross-sectional research design.

Study Setting conducted in selected School in Coimbatore. (Ashokapuram Higher Secondary School)

Target Population : Adolescent girls aged 13-18 years.

Sampling Technique: Stratified Random Sampling

Data Collection Tool

Structured Questionnaire/Survey: The main data collection tool will be a **self-administered questionnaire** designed to measure:

- Demographic information.
- Awareness of HPV and the HPV vaccine.
- Attitudes towards the HPV vaccine.
- Factors influencing the decision to get vaccinated.

Data Collection Procedure

The data collection for this descriptive cross-sectional study will be conducted in selected schools in Coimbatore after obtaining ethical clearance from the Institutional Ethical Committee and formal permission from school authorities. Adolescent girls aged 13–18 years will be selected using stratified random sampling based on key demographic variables such as age, socioeconomic status, and geographic location (urban vs. rural) to ensure representation. Informed consent will be obtained from parents/guardians and assent from the participants after explaining the study purpose and procedure. A structured and validated questionnaire comprising four sections—demographic data, awareness about HPV vaccination, attitude and factors influencing the decision of adolescent girls it—will be administered in person during school hours in a classroom setting, ensuring privacy and comfort. Each session will take approximately 30–40 minutes, and data will be collected over 2–3 weeks. Confidentiality and anonymity will be strictly maintained throughout the process, and no identifying information will be recorded. Collected data will be securely stored and used solely for research purposes, with access restricted to the principal investigator and authorized research team members.

Ethical Considerations

- **Informed Consent:** Written informed consent obtained from all participants, and **parental consent** received from participants under 18 years.
- **Confidentiality:** All participant data kept confidential.
- **Right to Withdraw:** Participants informed that they can withdraw from the study at any time without consequences.
- **Ethical Approval:** The study submitted for ethical review and approval by a Institutional Review Board (IRB)

Data Analysis and Interpretations

Section A: Frequency distribution of Demographic variables

Table 1: Frequency distribution of Demographic variables

S. No.	Demographic Variable	Options	Frequency (No)	Percentage (%)
1.	Age of the Adolescent girls	13-15 years	100	50%
		16-18 years	100	50%
2.	Educational Level	Primary School	40	20%
		Secondary School	80	40%
		High School	80	40%
3.	Socioeconomic Status	Low	70	35%
		Middle	100	50%
		High	30	15%
4.	Type of Residence	Urban	130	65%
		Rural	70	35%
5.	Parental Education Level	No formal education	20	10%
		Primary school	40	20%
		Secondary school	60	30%
		Higher education	80	40%
6.	Family Income (monthly)	Below 10000	60	30%
		10000-15000	90	45%
		15000-20000	40	20%
		Above 20000	10	5%

S. No.	Demographic Variable	Options	Frequency (No)	Percentage (%)
7.	Religion	Christian	100	50%
		Muslim	50	25%
		Hindu	30	15%
		Other	20	10%
8.	Region (Geographic Location)	Rural	120	60%
		Urban	80	40%
9.	Living Arrangement	Living with both parents	150	75%
		Living with mother	30	15%
		Living with father	10	5%
		Living with guardian	10	5%
10.	Access to Health Information	High access (regular access to health-related info)	120	60%
		Moderate access	60	30%
		Low access (rarely exposed)	20	10%
11.	Parental Support for Vaccination	Yes	160	80%
		No	30	15%
		Unsure	10	5%

The demographic profile of the study participants consisted of adolescent girls aged between 13 - 18 years, with half of them (50%) in the 13–15 age group, followed by 50% aged 16–18 years. Regarding educational level, 40% were in secondary school, 40% in high school, 20% in primary school. Socioeconomic status varied, with half (50%) belonging to the middle-income group, 35% to the low-income group, and 15% to the high-income group. Urban residents made up 65% of the sample, while 35% were from rural areas. Parental education showed that 40% had higher education, 30% had completed secondary school, 20% primary school, and 10% had no formal education. In terms of monthly family income, 45% earned between ₹10,000–₹15,000, 30% earned below ₹10,000, 20% earned ₹15,000–₹20,000, and 5% earned above ₹20,000. Religion-wise, 50% of participants were Christian, 25% Muslim, 15% Hindu, and 10% belonged to other faiths. Geographically, 60% were from rural areas and 40% from urban regions. A majority (75%) lived with both parents, 15% with only their mother, and the remaining with either their father (5%) or a guardian (5%). Regarding access to health information, 60% had high access, 30% moderate, and 10% low. Finally, 80% reported

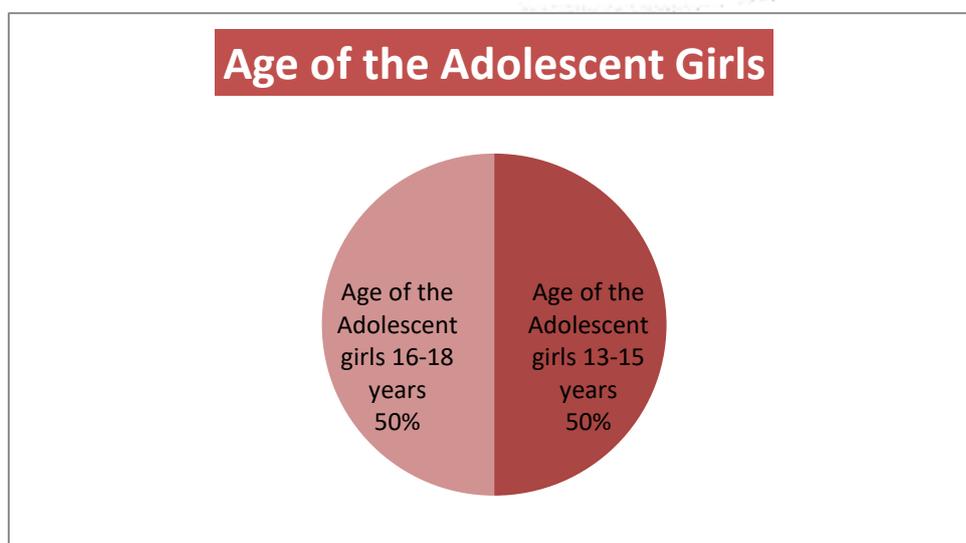


Figure 1: Frequency percentage of age of the adolescent girls

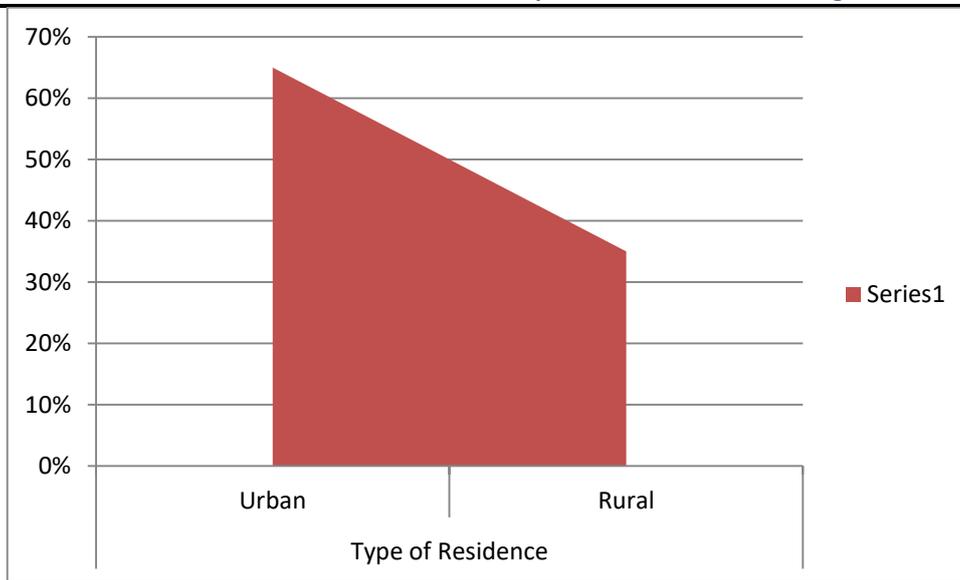


Figure 2: Frequency percentage regarding type of residence

SECTION B: Assess the level of awareness regarding HPV and the HPV vaccine among adolescent girls.

Table 2 : Level of awareness regarding HPV and the HPV vaccine among young girls.

S. No.	Awareness of HPV	Options	Frequency (No)	Percentage (%)
1	Heard of HPV	Yes	180	90%
		No	20	10%
2	Heard of HPV Vaccine	Yes	160	80%
		No	40	20%
3	Understand what HPV Vaccine Prevents	Cancer prevention	120	60%
		Genital warts prevention	30	15%
		Both	40	20%
		Don't know	10	5%

The findings related to awareness of HPV among adolescent girls revealed that a majority (90%) had heard of HPV, while 10% had not. When asked about awareness of the HPV vaccine, 80% reported that they had heard of it, whereas 20% were unaware. Regarding their understanding of what the HPV vaccine prevents, 60% identified it as a measure for cancer prevention, 15% believed it prevents genital warts, 20% correctly recognized that it prevents both, and 5% admitted they did not know. These results indicate a relatively high level of basic awareness, but also highlight gaps in comprehensive understanding, particularly regarding the full protective scope of the HPV vaccine.

SECTION C: To examine the attitudes of adolescent girls towards HPV vaccination.**Table 3: Young Girls Attitudes Towards HPV Vaccination**

S. No.	Attitude Towards HPV Vaccine	Options	Frequency (No)	Percentage (%)
1	Believe HPV vaccine is important	Yes	150	75%
		No	30	15%
		Not Sure	20	10%
2	Willing to get vaccinated	Yes	130	65%
		No	50	25%
		Not Sure	20	10%
3	Think the vaccine is safe	Yes	140	70%
		No	30	15%
		Not Sure	30	15%

The assessment of adolescent girls' attitudes towards the HPV vaccine revealed generally positive perceptions, though with areas of hesitation. A majority (75%) believed that the HPV vaccine is important, while 15% did not share this belief and 10% were unsure. When asked about their willingness to get vaccinated, 65% expressed readiness to receive the vaccine, whereas 25% were unwilling and 10% remained uncertain. Regarding perceptions of vaccine safety, 70% considered the vaccine to be safe, while 15% believed it was not safe, and another 15% were unsure. These findings reflect a predominantly favorable attitude towards

HPV vaccination, but also underscore the need for targeted educational interventions to address doubts and misconceptions, especially concerning vaccine safety and importance.

Section D: To identify the factors influencing the decision of adolescent girls to accept or decline the HPV vaccine.

Table 4: Factors Influencing HPV Vaccination Decision of young girls :

S. No.	Factors Influencing Vaccination Decision	Options	Frequency (No)	Percentage (%)
1	Parental Support	Yes	160	80%
		No	20	10%
		Unsure	20	10%
2	Peer Influences	Yes	100	50%
		No	60	30%
		Not Sure	40	20%
3	Fear of Side Effects	Yes	40	20%
		No	120	60%
		Unsure	40	20%
4	Belief in Vaccine Effectiveness	Yes	150	75%
		No	30	15%
		Not Sure	20	10%
5	Cost of Vaccine	Yes	30	15%
		No	150	75%
		Unsure	20	10%

The factors influencing the decision to receive the HPV vaccine among adolescent girls were diverse. Parental support played a significant role, with 80% of participants reporting parental encouragement, while 10% did not receive support and another 10% were unsure. Peer influence was also a notable factor, with 50% indicating that their peers influenced their decision, while 30% were not influenced, and 20% were unsure. Concerns about side effects were present for 20% of the participants, with 60% feeling confident about the vaccine's safety, and 20% remaining uncertain. Belief in the vaccine's effectiveness was strong, with 75% affirming their trust in its effectiveness, 15% disagreeing, and 10% unsure. Lastly, the cost of the vaccine was not seen as a barrier for most, with 75% reporting it as not a concern, 15% considering it a factor, and 10% uncertain. These findings indicate that while parental support and belief in the vaccine's effectiveness are significant motivators, concerns about side effects and peer influence are also key considerations in the vaccination decision-making process.

SECTION F:

Regarding the age although the association was not statistically significant ($p = 0.077$), the trend indicates a **potential age-related difference** in exposure to HPV information. Regarding the parenteral education, No significant association ($p = 0.467$), but there's a **suggestive pattern** that **parental literacy supports positive health behaviour**. There is no other association between variables and findings.

Results and Discussion

Results:

The findings of this study highlighted several key points about the awareness, attitude, and factors influencing HPV vaccination among adolescent girls:

Awareness of HPV and the Vaccine: 90% of participants had heard of HPV, and 80% were aware of the HPV vaccine. Among those who understood the vaccine's purpose, 60% identified cancer prevention as its primary benefit, while 20% recognized it as preventing both cancer and genital warts. However, 5% were unaware of what the vaccine prevents, suggesting a need for better education on its full protective scope.

Attitudes Towards HPV Vaccination: A positive attitude towards vaccination was observed, with 75% of the participants believing the HPV vaccine is important and 65% expressing willingness to get vaccinated. 70% of participants considered the vaccine safe, indicating a general trust in its safety, although 15% were unsure, and 15% disagreed with its safety.

Factors Influencing Vaccination Decision: Parental support was the most influential factor, with 80% of participants reporting encouragement from their parents. Peer influence also played a role, with 50% of girls being influenced by their peers, indicating that peer groups are an important factor in vaccine acceptance. Concerns regarding side effects were reported by 20% of the participants, but most (60%) did not have such concerns. The belief in the vaccine's effectiveness was high, with 75% of participants trusting that the vaccine would protect against HPV-related diseases.

Discussion:

The results reflect a relatively high level of awareness and positive attitudes towards HPV vaccination, though gaps in knowledge persist regarding the full protective benefits of the vaccine. The study suggests that while most adolescent girls understand the importance of the vaccine, misconceptions regarding its scope and benefits remain, particularly in relation to its role in preventing both cancer and genital warts.

Parental support emerged as a significant factor influencing the vaccination decision, aligning with previous studies that highlight the role of family in adolescent health decision-making. Peer influence, though important, was less influential compared to parental support, suggesting that familial discussions may be more impactful than peer opinions in this context.

The concern about side effects was less significant, yet the 20% of girls who expressed fear underscores the importance of addressing safety concerns through education and healthcare provider engagement. Given the general positive attitude toward the vaccine and its perceived effectiveness, the main barriers to vaccination seem to lie in misinformation rather than resistance to vaccination itself.

Conclusion:

This study highlights that while there is a high level of awareness and a positive attitude towards HPV vaccination among adolescent girls, gaps in knowledge about the full protective benefits of the vaccine remain. Parental support and belief in the vaccine's effectiveness are key drivers of vaccination decisions, whereas peer influence and cost are secondary factors. To improve vaccination rates, targeted educational interventions are necessary to enhance understanding, address safety concerns, and promote the vaccine's importance for preventing HPV-related diseases. Efforts to dispel myths and provide accurate information about the vaccine's benefits and safety will be essential in achieving greater vaccine uptake in this population.

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