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Knowledge and Attitude Towards Human Papilloma Virus Vaccination Among Adolescent Age Group Girls (12-15 Years) in KIMS and RF, AMALAPURAM

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OPENACCESS

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ABS TRAC T

Introduction: Human papillomavirus (HPV) comprises over 200 related viruses, with high-risk types like HPV-16 and HPV-18 accounting for about 70% of cervical cancer cases—the fourth most common cancer in women globally.

Materials and Methods: A cross-sectional descriptive study was conducted from September 2024 to February 2025 in the Paediatric OPD of KIMS & RF, targeting adolescent girls aged 12–15 years. The study included all girls within this age group who attended the OPD and provided consent, either personally or through a guardian.

Result: The study sample consisted of 150 adolescent girls aged between 12 and 15 years, and data were collected on their sociodemographic characteristics, as well as their knowledge and attitude regarding HPV vaccination. Among the sociodemographic factors, 13-14 years age group with 34.6% followed by 14-15 years age group with 33.3%. About the knowledge of HPV infection, Cervical cancer and HPV vaccination, majority of participantsdon't know relevant questions.

Conclusion: The study concludes that inadequate knowledge and negative attitudes toward cervical cancer, HPV infection, and the HPV vaccine among adolescent girls.

Keywords: Human Papillomavirus (HPV), HPV Vaccination, Adolescent Girls.

INTRODUCTION

Human papillomavirus (HPV) comprises over 200 related viruses, with high-risk types like HPV-16 and HPV-18 accounting for about 70% of cervical cancer cases—the fourth most common cancer in women globally (Akhter et al., 2025; Sanjose et al., 2018).[2,6]Although HPV vaccination is highly effective, particularly when given before sexual debut in girls aged 9–14, barriers such as low awareness, limited knowledge, and poor acceptance persist in many regions (CDC, 2008; Lismidiati et al., 2020).[5,13] Beyond cervical cancer, the vaccine also protects against genital warts and other cancers, including anal, vulvar, vaginal, penile, oropharyngeal, and certain head and neck cancers (Lismidiati et al., 2020).[13] Awareness and understanding are critical to the success of prevention efforts (Pandey et al., 2012).[18] This study, therefore, aims to assess the perception and acceptability of HPV vaccination among parents of adolescent girls—key decision-makers—to help guide policies and improve vaccination strategies (Shipra et al., 2024).[19]

MATERIALS AND METHODS

A cross-sectional descriptive study was conducted from September 2024 to February 2025 in the Paediatric OPD of KIMS & RF, targeting adolescent girls aged 12–15 years. The study included all girls within this age group who attended

the OPD and provided consent, either personally or through a guardian. Girls outside the age range, those who did not give consent, and those who were immunocompromised or had cognitive disabilities were excluded.
The sample size was calculated using the formula $n = 4pq/d^2$, assuming a 95% confidence interval, an estimated HPV vaccine uptake of 10% (p), q = 90%, and a margin of error of 5%. This resulted in a required sample size of 144, which was rounded up to 150 participants. All eligible and consenting participants present during data collection were included.

Data were collected through interviews using a pre-tested, semi-structured questionnaire developed based on previous studies assessing knowledge, attitudes, and practices related to cervical cancer, HPV infection, and HPV vaccination. The collected data were entered into Microsoft Excel and analysed using SPSS version 25.0 (trial version). Chi-square tests were used to assess statistical significance, with a p-value of less than 0.05 considered significant. Multivariate analysis was performed to identify key influencing variables. Ethical approval for the study was obtained from the Institutional Ethics Committee.

RESULTS

The study sample consisted of 150 adolescent girls aged between 12 and 15 years, and data were collected on their sociodemographic characteristics, as well as their knowledge and attitude regarding HPV vaccination.

TABLE 1- SOCIODEMOGRAPHIC FACTORS

SOCIODEMOGRAPHIC FACTORS	FREQUENCY (n=150)	%
AGE GROUP		
12-13 years	48	32
13-14 years	52	34.6
14-15 years	50	33.3
STUDENT EDUCATIONAL STATUS		
Primary school	15	10-
Secondary school	135	90
FATHER EDUCATIONAL STATUS		
Illiterate	15	10
Primary school	15	10
Secondary school	60	40
Higher secondary	30	20
Degree and above	30	20
MOTHER EDUCATIONAL STATUS		
Illiterate	15	10
Primary school	36	24
Secondary school	44	29.3
Higher Secondary	40	26.6
Degree and above	15	10
FATHER OCCUPATIONAL STATUS		
Farmer / Daily Labourer	25	16.6
Employee	66	44
Businessman	54	36
Nil	5	3.33
MOTHER OCCUPATIONAL STATUS		
Housewife	50	33.3
Employee	40	26.6
Businesswoman	30	20
Farmer / Daily laborer	30	20
RELIGION		
Hindu	96	64
Muslim	10	6.6
Christian	44	29.3

FIGURE 1: AGE GROUP OF ADOLESCENT GIRLS

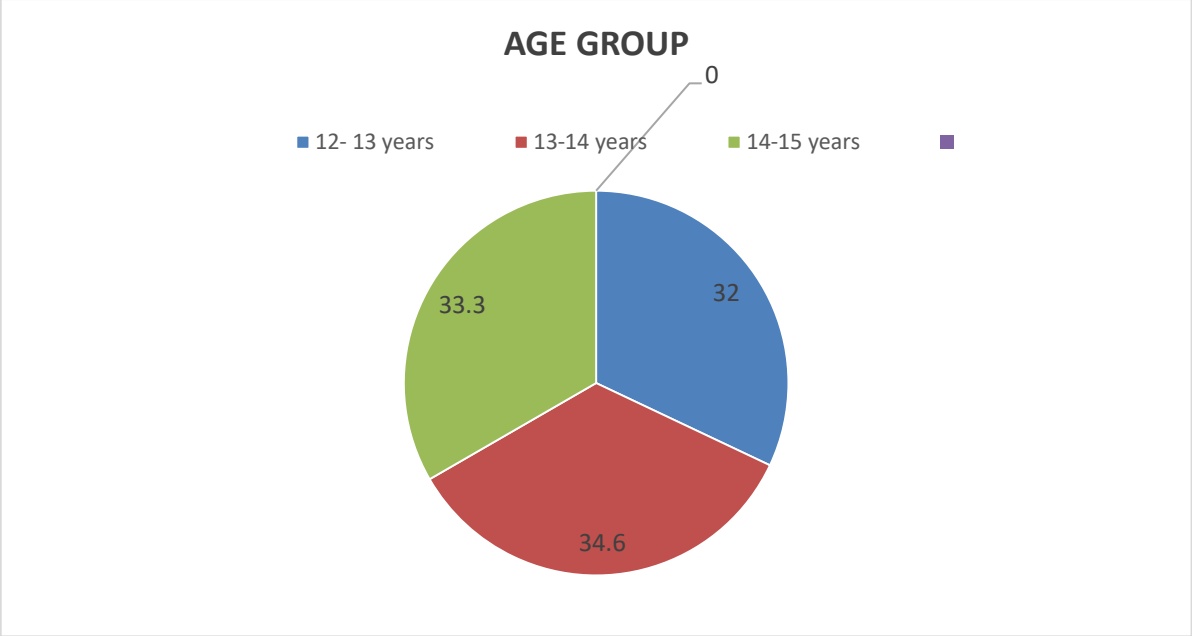

Table 1 depicts the sociodemographic factors, Figure 1 showing among the age group of the children, 13-14 years age group with 34.6% followed by 14-15 years age group with 33.3%.

TABLE 2: KNOWLEDGE OF CERVICAL CANCER

KNOWLEDGE OF CERVICAL CANCER	FREQUENCY (n=150)	%
HEARD ABOUT CERVICAL CANCER		
YES	**60**	**40**
NO	**90**	**60**
MODE OF TRANSMISSION OF CERVICAL CANCER		
KNOW	**15**	**10**
DON'T KNOW	**135**	**90**
RISK FACTORS OF CERVICAL CANCER		
KNOW	**10**	**6.6**

DON'T KNOW	**140**	**94.3**

As questionnaire had been prepared for knowledge and attitude of the HPV vaccination and Cervical Cancer. **TABLE 2** and **FIGURE 2** explains about the Knowledge of Cervical Cancer among the study participants.

FIGURE 2: KNOWLEDGE OF CERVICAL CANCER

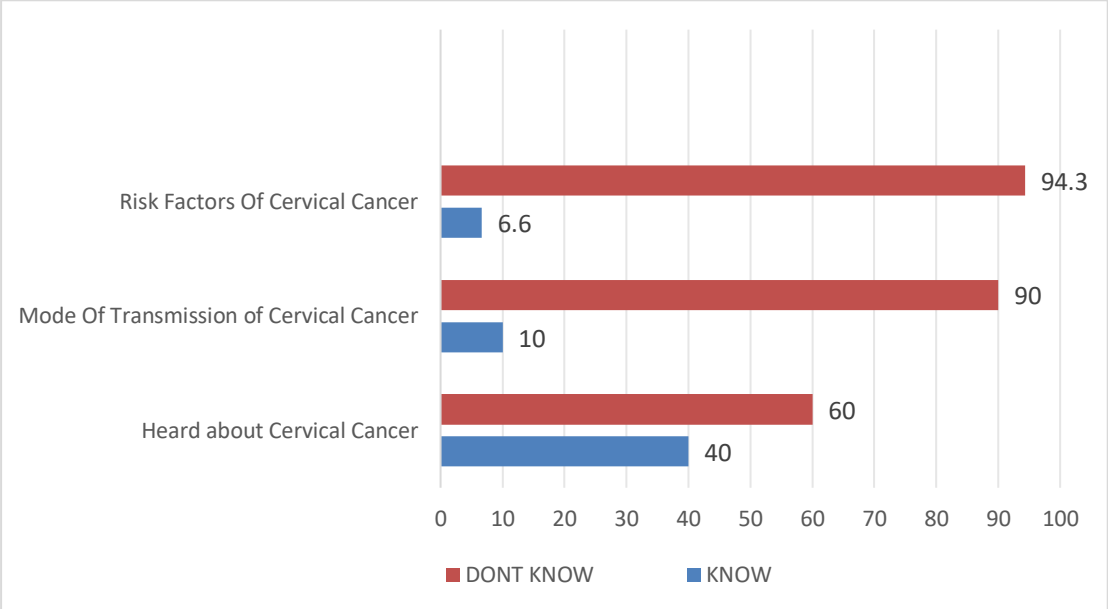

TABLE 3: KNOWLEDGE OF HPV INFECTION

KNOWLEDGE OF HPV INFECTION	**FREQUENCY (n=150)**	**%**
HEARD ABOUT HPV INFECTION		
YES	25	16.6
NO	125	83.3
DISEASES CAUSED BY HPV INFECTION		
KNOW	25	16.6
DON'T KNOW	125	83.3
RISK FACTORS FOR HPV INFECTION		
KNOW	15	10
DON'T KNOW	135	90
METHOD OF PREVENTION OF HPV INFECTION		

KNOW	10	6.6
DON'T KNOW	140	94.3

Table 3 and Figure 3 Shows about Knowledge of HPV infection among the study participants.

FIGURE 3: KNOWLEDGE OF HPV INFECTION

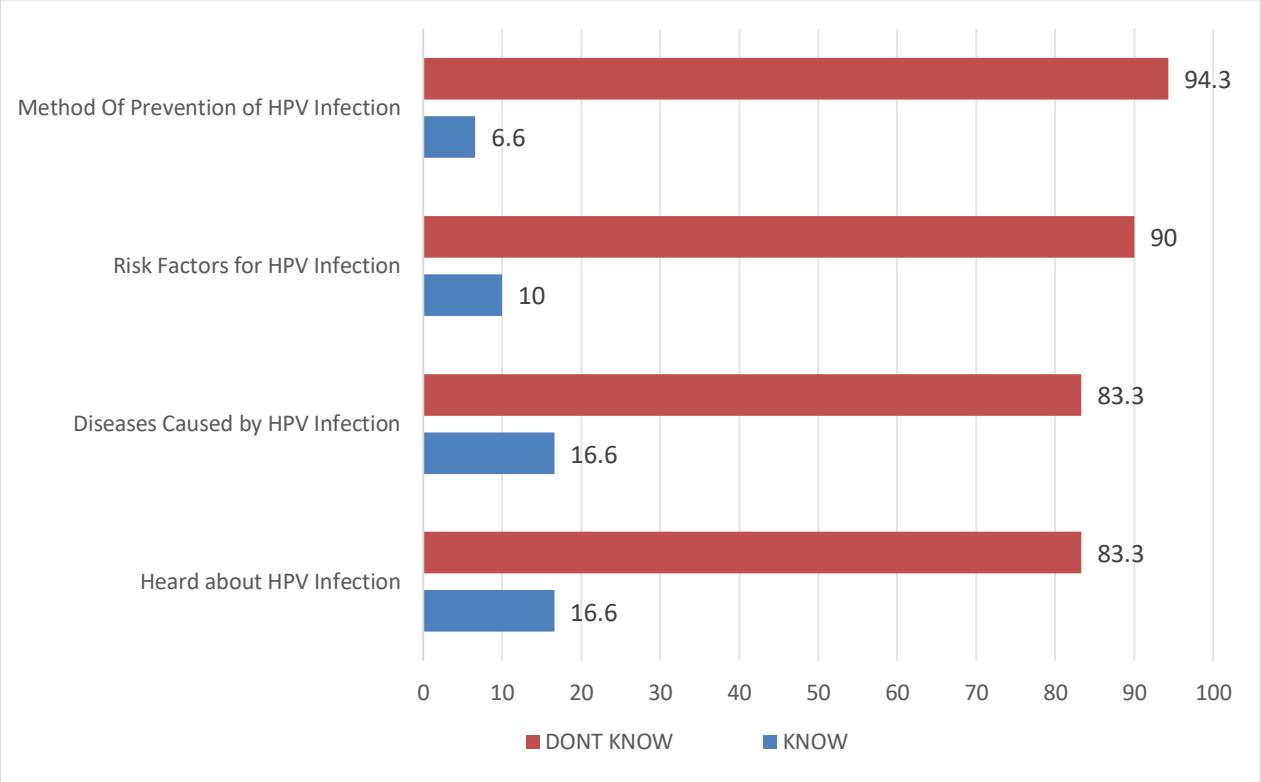

TABLE 4: KNOWLEDGE OF HPV VACCINE

KNOWLEDGE OF HPV VACCINE	FREQUENCY (n=150)	%
HEARD ABOUT HPV VACCINE		
KNOW	**15**	**10**
DON'T KNOW	**135**	**90**
BENEFITS OF HPV VACCINE		
KNOW	**15**	**10**
DON'T KNOW	**135**	**90**
WHO SHOULD GET HPV VACCINE		
KNOW	**5**	**3.3**
DON'T KNOW	**135**	**96.7**
IDEAL TIME FOR HPV VACCINATION		
KNOW	**5**	**3.3**
DON'T KNOW	**135**	**96.7**

Table 4 andFigure 4 explains the questionnaire about Knowledge of HPV Vaccination.

FIGURE 4: KNOWLEDGE OF HPV VACCINE

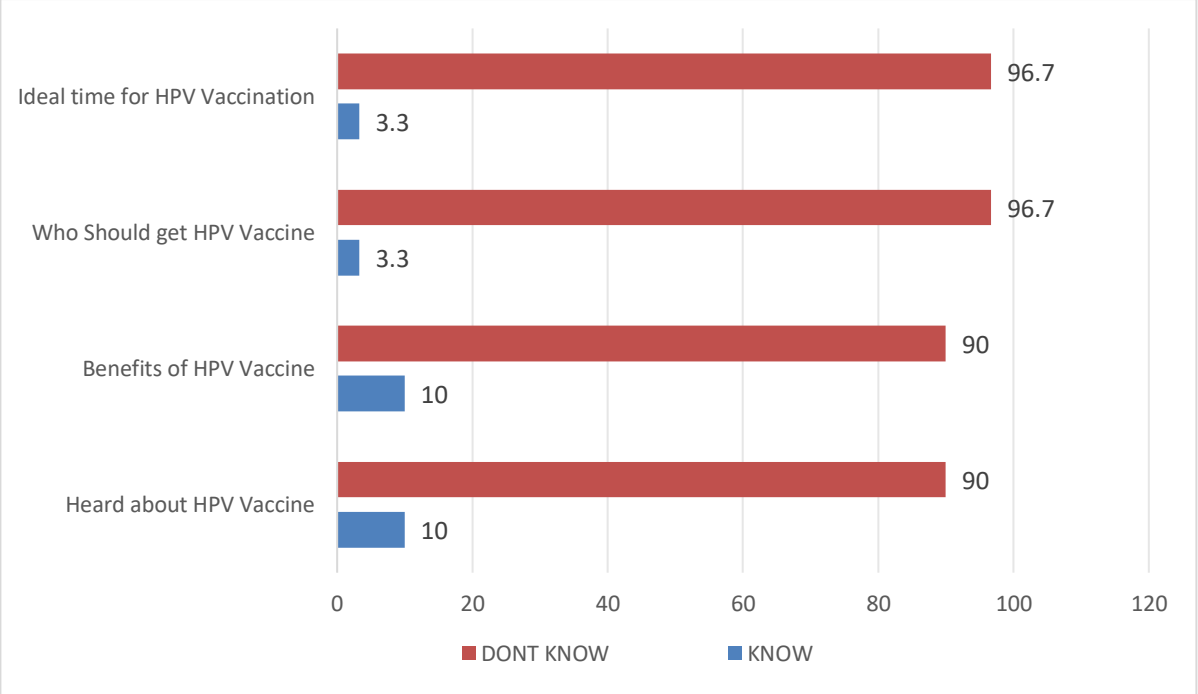

TABLE 5: SOURCE OF INFORMATION ABOUT CERVICAL CANCER

SOURCE OF INFORMATION	FREQUENCY (n=60)	%
HEALTH PROVIDERS	20	33.3
SCHOOL TEACHERS	0	0
INTERNET	12	20
AWARENESS CAMP	28	46.6

Table 5 and Figure 5 describe the knowledge of Cervical Cancer among female participants.

FIGURE 5: SOURCE OF INFORMATION ABOUT CERVICAL CANCER

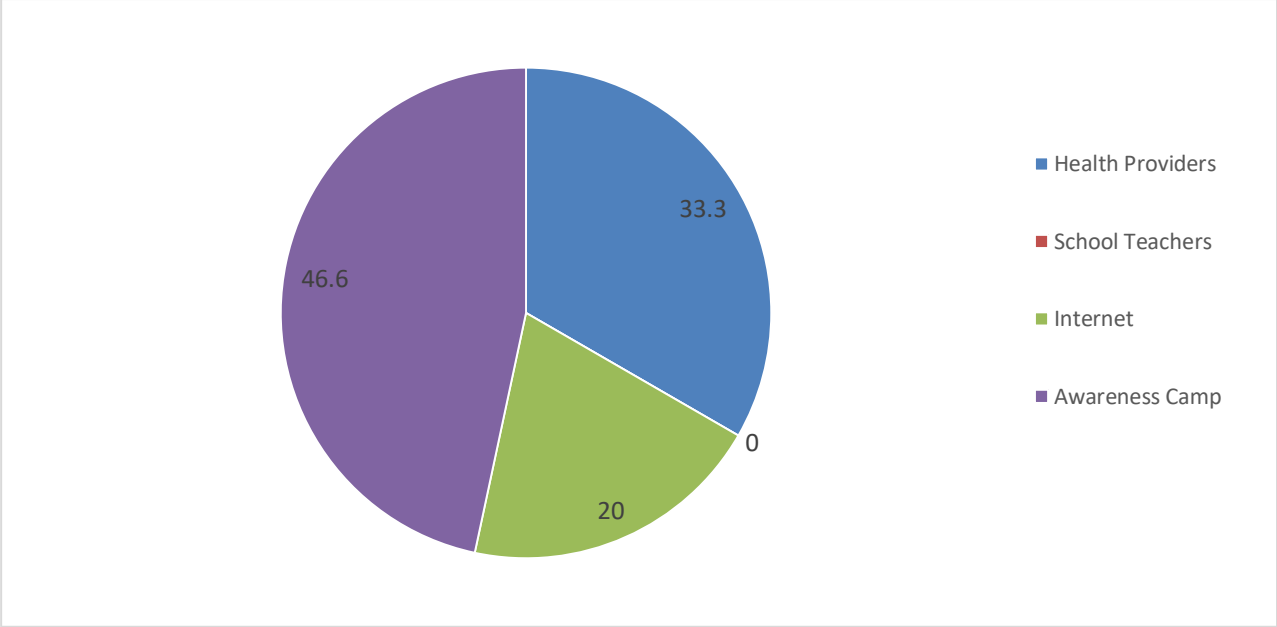

TABLE 6: ATTITUDE TOWARDS HPV VACCINATION

ATTITUDE TOWARDS HPV VACCINATION	FREQUENCY (n=150)	%
DO YOU THINK CERVICAL CANCER IS DEADLY DISEASE		
YES	50	33.3
NO	100	66.6
HPV VACCINATION HELPS TO PREVENT CERVICAL CANCER		
YES	15	10
NO	135	90
REGULAR SCREENING AND VACCINATION MINIMIZES CERVICAL CANCER		
YES	10	6.6
NO	140	94.3
WILL YOU DISCUSS WITH PARENTS ABOUT CERVICAL CANCER PREVENTION		
YES	15	10
NO	135	90
ARE YOU WILLING FOR HPV VACCINATION		
YES	10	6.6
NO	140	94.3
WILL YOU RECOMMEND HPV VACCINATION TO OTHERS		
YES	25	16.6
NO	115	76.6
OVERALL ATTITUDE SCORE		
FAVOURABLE	18	12
UNFAVOURABLE	132	88

Table 6 depicts regarding Attitude towards HPV Vaccination for which 88% students showing Unfavorable attitude and 12% showing Favourable attitude.

DISCUSSION

HPV infection remains one of the most significant yet preventable causes of cervical cancer, and the introduction of the HPV vaccine offers an effective strategy to reduce both infection rates and cervical cancer incidence. This study assessed the knowledge and attitudes of adolescent girls toward cervical cancer, HPV infection, and HPV vaccination, revealing

that only 40% were knowledgeable about the vaccine—higher than reports from Latvia (9.9%) and Niger (11.4%)[9,14] (Jalani et al., 2016; Loke et al., 2017), but lower than those from Puducherry (43.3%) and Uganda (47.7%) (Amu et al., 2019; Kisaakye et al., 2018)[3,12]. Differences in knowledge levels may be attributed to variations in socioeconomic status, study settings, cultural norms, and access to information, with national immunization programs and awareness campaigns potentially enhancing exposure (Africa WHO, 2018)[1]. A concerning 88% of participants showed unfavorable attitudes toward the vaccine, a figure higher than that reported in Nigeria (44.2%) (Ojeleye et al., 2019)[17] and Italy (20%) (Trucchi et al., 2020)[22]. Furthermore, only 10% of girls in this study were aware of the HPV vaccine for cervical cancer prevention, consistent with Hussain et al. (2016)[8], but significantly lower than awareness levels in Andhra Pradesh (54%) (Kamini et al., 2016)[11], Karnataka (75.6%) (Mehta et al., 2013)[16], and a study in Delhi by S. Mehta et al. (Ramirez et al., 2000)[21]. The primary sources of information included awareness camps (46%), healthcare providers (33%), and the internet (20%), aligning with trends in other Asian countries (Donati et al., 2012)[7], but contrasting with Italian findings where healthcare providers were the most trusted source (Petra et al., 2012)[20]. These findings underscore the urgent need for structured awareness programs and targeted school-based health education to enhance HPV vaccine knowledge and acceptance among adolescents.

CONCLUSION

The study concludes that inadequate knowledge and negative attitudes toward cervical cancer, HPV infection, and the HPV vaccine among adolescent girls highlight the urgent need for targeted education and awareness strategies to improve vaccine acceptance and uptake.

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