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Knowledge Regarding Human Papillomavirus (HPV) Among Women in a Selected Rural Area of Manesar, Haryana

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Abstract

Human Papillomavirus (HPV) infection is a common viral disease with potential to cause serious health complications, including cervical cancer. This descriptive study aimed to assess the knowledge of HPV among women in the rural area of Baghanki, Manesar, Haryana. Data were collected from 50 women aged 20–60 years using a structured

questionnaire. Results revealed that 66% demonstrated average knowledge, while 6% had good knowledge, and 28% exhibited poor or very poor understanding. The findings emphasize the need for targeted health education programs to improve HPV awareness and vaccination uptake in rural populations.

Keywords: Human Papillomavirus, HPV Awareness, Rural Health, Cervical Cancer Prevention, Health Education

Introduction

Human Papillomavirus (HPV) is a DNA virus associated with various diseases, ranging from benign warts to cancers, including cervical cancer. Despite its prevalence, awareness about HPV and its preventive measures remains low, particularly in rural areas. Rural women often face barriers to healthcare access and education, further contributing to the knowledge gap. This study assessed the level of knowledge among women in a rural setting to inform future interventions and improve public health outcomes.

Objectives of the Study

1. To assess the level of knowledge regarding HPV among women in the selected rural area.
2. To determine the association between demographic variables and knowledge levels.

Material and Methods

A descriptive cross-sectional study was conducted in the rural area of Baghanki, Manesar, Haryana, to assess the knowledge regarding Human Papillomavirus (HPV) among women. The study targeted women aged 20 to 60 years and employed a convenient sampling technique to select 50 participants who met the inclusion criteria. Participants were required to be willing to participate, provide informed consent, and reside in the study area. Women who were healthcare professionals or who lacked proficiency in Hindi or English were excluded from the study.

The data collection tool consisted of a structured questionnaire divided into two sections. The first section gathered sociodemographic information, including age, education level, marital status, occupation, income, and vaccination status. The second section assessed knowledge of HPV through a set of 20 structured questions. Knowledge scores were categorized into four levels: Good (16–20), Average (11–15), Poor (6–10), and Very Poor (0–5). The tool was validated by experts in nursing and public health, and modifications were incorporated based on their feedback. A pilot study conducted among five participants demonstrated the tool's reliability, yielding a Cronbach's Alpha coefficient of 0.762.

Ethical approval for the study was obtained from the institutional ethics committee of Amity University, Haryana. Informed consent was obtained from all participants before data collection. The questionnaire was administered individually in a private, distraction-free setting to ensure confidentiality and participant comfort. The collected data were analyzed using descriptive statistics to summarize demographic variables and knowledge levels. The chi-square test was employed to identify associations between demographic variables and knowledge scores, with a significance level set at $p < 0.05$. This systematic approach ensured the reliability and validity of the study findings.

Results and Discussion

Demographic Characteristics of Participants:

The study included 50 women aged 20–60 years from the rural area of Baghanki, Manesar, Haryana. The majority (40%) of participants were aged 31–40 years, followed by 38% in the 20–30 age group. Most participants (70%) resided in rural areas, and 44% had completed secondary education, while 24% were graduates or above. Regarding occupation, 54% of participants were homemakers, and 28% were private employees. The majority (32%) reported a monthly income above ₹25,000, while 20% earned between ₹5,001 and ₹10,000 or ₹21,001 and ₹25,000. Only 6% of participants had received at least one dose of the HPV vaccine, and none reported a family history of cervical cancer. These demographic characteristics are summarized in Table 1.

Table 1: Demographic Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	18–21	20	33.33
	22–25	16	26.66
	26–29	11	18.33
	30 and above	13	21.66
Gender	Male	41	68.33
	Female	19	31.66
Religion	Hindu	36	60
	Muslim	12	20
	Sikh	5	8.33
	Christian	4	6.66
	Others	3	5
Family Type	Joint Family	10	16.66
	Nuclear Family	10	16.66
	Extended Family	40	66.66
Education Level	No Formal Education	4	6.66
	Primary School	15	25
	Higher Secondary School	30	50
	Graduate and Above	11	18.33
Family Income (INR)	₹3,000–5,000	10	16.66
	₹6,001–8,000	34	56.66

Knowledge levels

The study assessed participants' knowledge of HPV using a structured questionnaire. Findings revealed that 66% of participants demonstrated average knowledge (scores between 11–15), while only 6% had good knowledge (16–20). Additionally, 20% exhibited poor knowledge (6–10), and 8% fell into the very poor category (0–5). The mean knowledge score was 11.35, with a standard deviation of

3.02, indicating moderate awareness with notable gaps in understanding. Table 2 and Fig 1 provide a detailed breakdown of knowledge levels.

Table 2: Knowledge Levels of Participants

Knowledge Level	Score Range	Frequency (n)	Percentage (%)
Good	16–20	3	6
Average	11–15	33	66
Poor	6–10	10	20
Very Poor	0–5	4	8

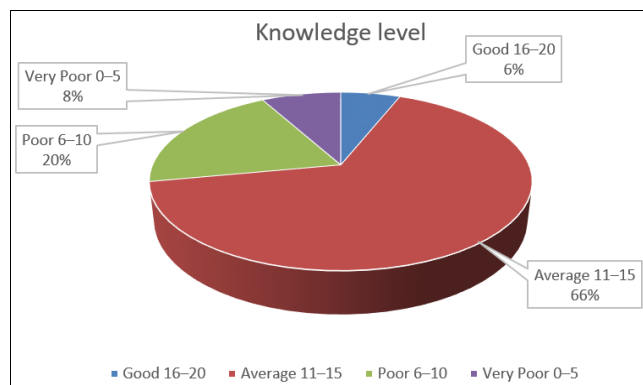


Fig 1: Distribution of Knowledge Levels; A pie chart visualizing the knowledge distribution: Good (6%), Average (66%), Poor (20%), Very Poor (8%).

Association Between Demographic Variables and Knowledge Levels

The chi-square test revealed no statistically significant associations between demographic variables (such as age, education, income, marital status, or vaccination status) and knowledge levels ($p > 0.05$ for all variables). This suggests that factors like education or income did not substantially influence participants' knowledge about HPV. Table 3 summarizes the results of the chi-square test.

Table 3: Chi-square Test Results for Knowledge Scores and Demographic Variables

Variable	Category	χ^2 Value	p-value
Age	20–30 vs 31–40 vs others	0.593	0.905
Habitat	Rural vs Urban	0.381	0.943
Education Level	No Education vs Graduate	0.167	0.982
Income	Below ₹10,000 vs Above ₹20,000	0.389	0.940
Marital Status	Married vs Single vs Others	0.177	0.980
HPV Vaccination	Vaccinated vs Not Vaccinated	0.177	0.980
Source of Information	Health Personnel vs Others	0.488	0.916

Discussion

The findings reveal significant gaps in HPV knowledge among women in the rural area of Baghanki, Manesar. While most participants (66%) demonstrated average awareness, only 6% exhibited good knowledge, and vaccination rates were alarmingly low (6%). These results align with previous studies indicating low awareness levels in rural populations, often due to limited access to healthcare and educational resources.

The lack of significant associations between demographic variables and knowledge levels suggests that systemic barriers, such as inadequate health education and limited vaccine outreach, are key challenges. The study underscores

the need for targeted health education campaigns and community-based initiatives to improve awareness and vaccination uptake. Engaging trusted health personnel and leveraging mass media could effectively bridge these gaps.

Key Findings

1. Most participants (40%) were aged 31–40 years, with 70% residing in rural areas.
2. Majority (44%) had secondary education, and 54% were homemakers.
3. Only 6% had received at least one dose of the HPV vaccine.
4. 66% had average knowledge, while 28% exhibited poor or very poor knowledge.
5. Mean knowledge score was 11.35, indicating moderate awareness with gaps.
6. No significant associations were found between demographic variables and knowledge levels.
7. Health personnel were the primary source of information for 46% of participants.

Conclusion

The study revealed substantial knowledge gaps regarding HPV among women in rural Manesar. Despite moderate awareness levels, only 6% of participants exhibited good knowledge, and 94% were unvaccinated. These findings underscore the necessity for community-based health education programs and improved access to HPV vaccines.

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