Knowledge, Attitudes, and HPV Vaccine Intention Among Women in South India: A Cross-Sectional Study

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Introduction

- Cervical cancer is the fourth most common cause of cancer among women globally, with high prevalence in low- and middle-income countries.[1]
- HPV subtypes 16 and 18 appear in about 70% of cervical cancers.[2]
- HPV vaccination has proven effectiveness in preventing infection and pre-cancerous cervical and anogenital disease.[3]
- Cervical cancer is the second leading cause of cancer and a major cause of cancer-related deaths in women in India.[4]
- HPV vaccine uptake in India is low due to lack of knowledge, low perceived infection risk, cost concerns, and cultural barriers among the community and physicians.[4,5]
- This study assesses women's intention to receive the HPV vaccine in Karnataka, India, a region that is disproportionately affected by HPV compared to the rest of India.[6]

Methods

- In June 2019, a semi-structured questionnaire regarding HPV was administered to women ages ≥18 years who had previously heard of HPV (n=237).
- Participants were employed in the community and students in various academic programs (school of medicine, dentistry, arts, and business) in Karnataka, India.
- Knowledge, attitudes, sources of information about HPV, and intention to receive the HPV vaccine were determined.

Table 1: Knowledge Question Samples

QUESTION	ANSWERED CORRECTLY (n/%)	ANSWERED INCORRECTLY (n/%)	DID NOT KNOW (n/%)
HPV can cause cervical cancer.	182 (76.8%)	11 (4.6%)	44 (18.6%)
HPV can be passed on during sexual intercourse.	184 (77.6%)	18 (7.6%)	35 (14.8%)
HPV can be cured with antibiotics.	111 (46.8%)	56 (23.6%)	70 (29.5%)
The HPV vaccine offers protection against most cervical cancers.	133 (56.1%)	41 (17.3%)	63 (26.6%)
The HPV vaccine is most effective if given to people who have never had sex.	83 (35.0%)	60 (25.3%)	94 (39.7%)

Results

Table 2. Demographics

CHARACTERISTIC	NUMBER	PERCENTAGE
Age (n=237)		
<21	85	35.9
21-24	75	31.6
24-29	41	17.3
>30	36	15.2
Location (n=235)		
Urban	191	81.3
Rural	44	18.7
Marital status (n=236)		
Married	51	21.6
Unmarried	185	78.4
Children (n=232)		
Yes	35	15.1
No	197	84.9
Occupation (n=236)		
Unemployed	10	4.2
Employed	48	20.3
Own business	3	1.3
Others (including student)	175	74.2

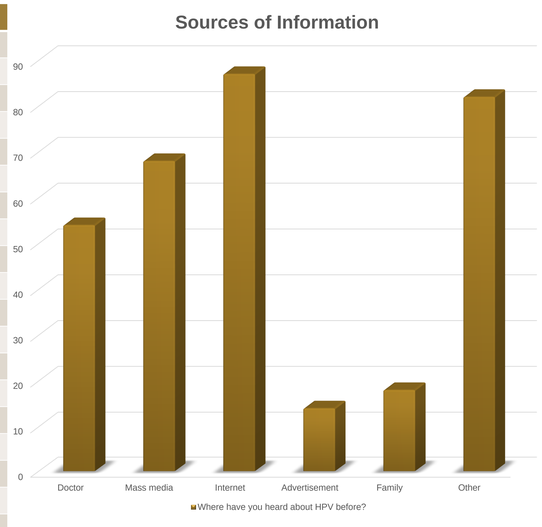
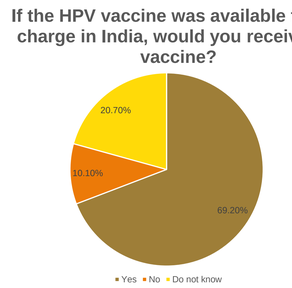


Figure 1: Source of Information Among Respondents.



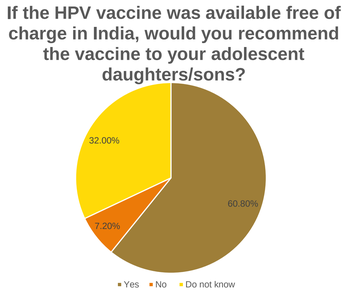


Figure 2: Intention to Receive HPV Vaccine. **Figure 3: Intention to recommend HPV Vaccine to Children.**

Table 3: Attitude Question Samples

QUESTION	STRONGLY DISAGREE (n/%)	SOMEWHAT DISAGREE (n/%)	SOMEWHAT AGREE (n/%)	STRONGLY AGREE (n/%)	DO NOT KNOW (n/%)
The HPV vaccine might cause lasting health problems.	46 (19.4%)	41 (17.3%)	69 (29.1%)	29 (12.2%)	52 (21.9%)
I think the HPV vaccine is unsafe.	107 (45.1%)	40 (16.9%)	30 (12.7%)	7 (2.9%)	53 (22.4%)
I am concerned that the HPV vaccine costs more than I can pay.	34 (14.4%)	42 (17.7%)	61 (25.7%)	31 (13.1%)	69 (29.1%)
I don't have enough information about the HPV vaccine to decide whether to give it to my child.	23 (9.7%)	32 (13.5%)	80 (33.8%)	55 (23.2%)	47 (19.8%)
Other parents in my community are getting their daughters the HPV vaccine.	24 (10.1%)	29 (12.2%)	45 (19.0%)	18 (7.6%)	121 (51.1%)

Interpretation

- Participants demonstrated good understanding that HPV causes cervical cancer and is sexually transmitted; however, knowledge that HPV is common and can cause oral/anal cancer was limited.
- Most knew the HPV vaccine protects against most cervical cancers and genital warts; however, a minority knew the vaccine is most effective prior to the onset of sexual activity and is recommend by the WHO for males.
- Participant misconceptions included HPV is a bacterial infection, can be cured with antibiotics, men cannot get the infection; misconceptions about HPV vaccine included that it protects against all STIs and every type of HPV.
- Prevalent attitudes and beliefs were the HPV vaccine provides at least moderate protection against cervical cancer, can causes lasting health problems, and costs too much.
- Study participants demonstrated limited acceptability of the vaccine, with only 69.2% accepting of the vaccine and 60.8% willing to recommend the vaccine to their children.

Conclusions

- Public health education about HPV and the role of the HPV vaccine in cancer prevention must be strengthened.
- Promoting vaccine accessibility through community outreach and implementing cost reduction should reduce the burden of HPV-associated cancers and other diseases among the population of South India.

Acknowledgements

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