

Knowledge, Attitude and Practice of Females Aged 18-50 in Ahmedabad for **Cervical Cancer** and its Prevention



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Introduction



Cervical cancer is preventable and treatable if caught early – WHO

Cervical Cancer develops in a woman's cervix (the entrance to the uterus from the vagina) - WHO

80% of deaths occur in **low and middle income countries**

(Seen in 100% of cases)

HPV Infection



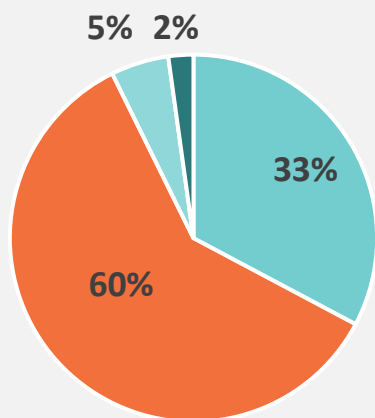
(Risk Factors)

- Long term use of **oral contraceptive**,
- **Multiple** full-term pregnancies,
- Becoming sexually active at **young age**
- **Poor** menstrual hygiene
- **Family history** of cancer

Cervical Cancer

- Post-coital vaginal bleeding
- Post-menopausal bleeding
- Intermenstrual bleeding
- Foul smelling vaginal discharge
- Pain in the pelvic region

- Localized Only
- Loco Regional
- Distant Metastasis
- Unknown Extent



60% of CC cases are discovered at **locally advanced** stage, hence making the five year survival rate grim to **7.9%** from **73.2%** when diagnosed early

WHO states vaccination as primary and screening as secondary most effective preventive measures for CC

Vaccinations

Gardasil
Cervarix (present in India since 2008)
Cervavac (first domestically produced vaccine)

Screening methods

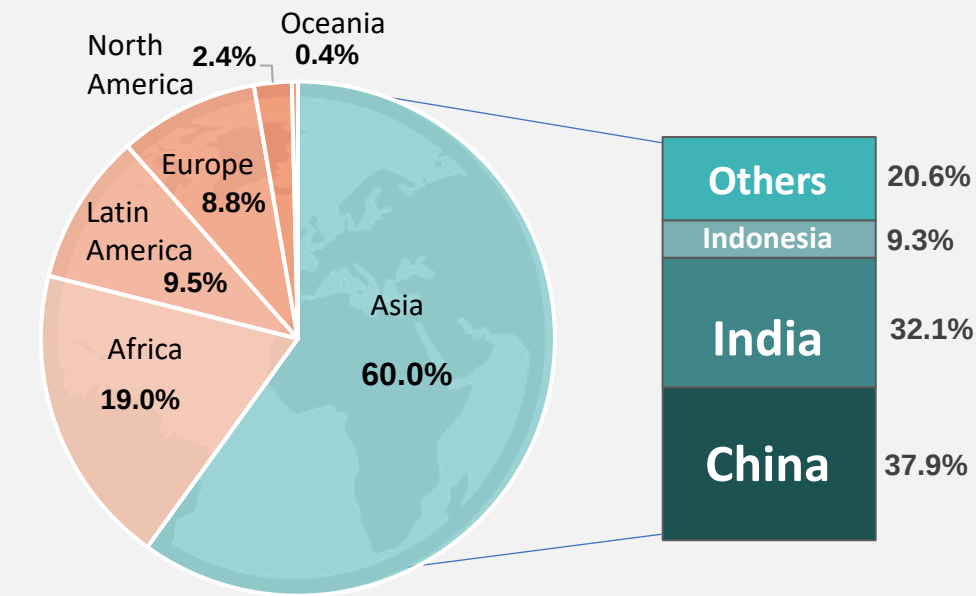
HPV DNA testing
 Pap smear cytology
 VIA



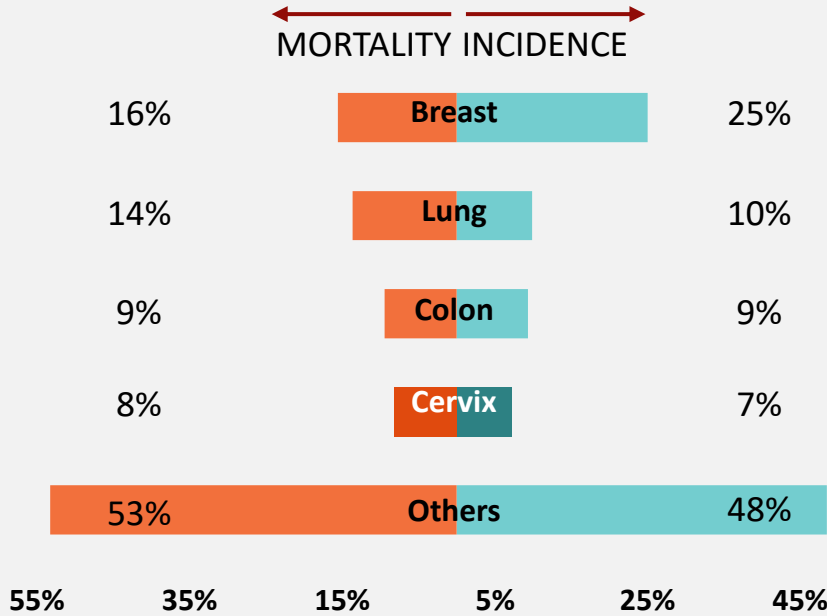
“One woman dies of cervical cancer every two minutes...Each one is a tragedy, and we can prevent it” – WHO

2022,
Cervical
cancer
affected
0.7 M
women,
resulting in
0.3 M
deaths
globally¹

Global Burden



Asia accounts for **60%** of global cancer incidence, with **India** alone contributing **one-third** to this regional burden¹



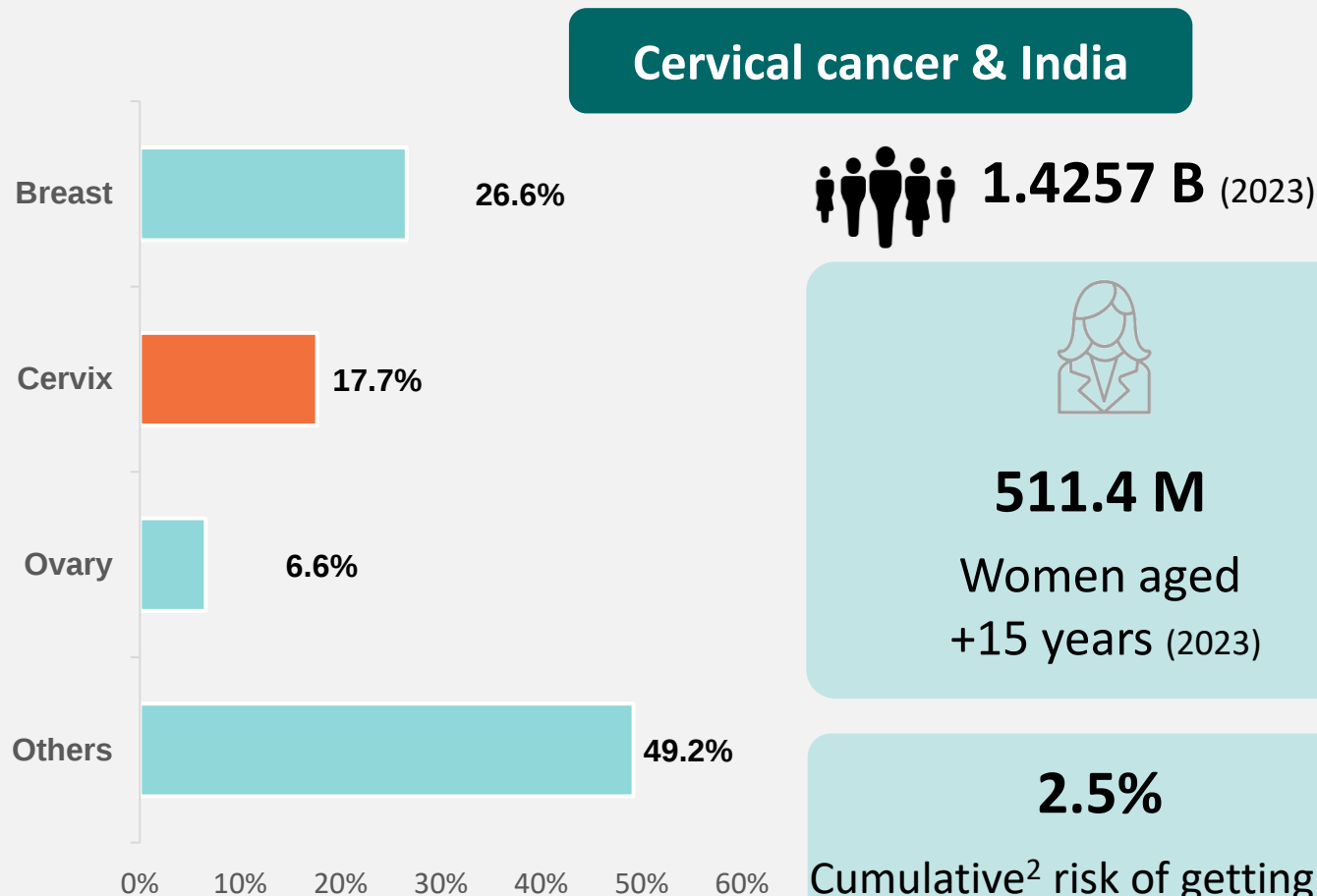
Cervical cancer ranks as the **fourth leading cause** of cancer incidence and mortality among women globally¹

Source: 1. GLOBOCON-2022



Every eight minutes a woman dies in India due to Cervical cancer and one out of four women who died of cervical cancer in world belonged to India

India accounted for **23 %** of deaths that occurred due to cervical cancer globally



Cervical cancer is the **second** most common cancer in females, India contributing **one-fifth** to global burden

511.4 M
Women aged +15 years (2023)

Screening rate¹
1.9% India
0.2% Gujarat

2.5%
Cumulative² risk of getting CC
1.4%
Cumulative risk of dying of CC

45 – 55y
Peak age for incidence of Cervical cancer

Cervical cancer is preventable disease and all countries have made a commitment to eliminate Cervical cancer as a public health concern

 Prevention of HPV- associated precancer and cancer is the key element of the WHO's global strategy

WHO's global strategy to accelerate the Elimination of Cervical Cancer outlines three measurable targets to prevent and treat cervical cancer by 2030

 **Vaccination: 90% of girls** should be fully vaccinated with HPV vaccine by the age of 15

 **Screening: 70% of women** should be screened using a high-performance test by ages 35 and 45

 **Treat: 90%** of those identified with cervical cancer should receive appropriate treatment

 Since 2016 Indian govt. increased efforts to tackle Cervical cancer

Cervical cancer screening (2016): Indian govt. issued guidelines for implementing **population based screening programme** for cervical, breast and oral cancers
All states in India are since tasked with rolling out these programs

Health and Wellness Centre Program (2018): This focuses on **strengthening comprehensive primary care services** by emphasizing on screening, prevention, control & management of NCD's including cervical cancer through community health

CERVAVAC Launch (2023): First **indigenous vaccine**, specifically designed for prevention of cervical cancer, notable for its **affordability** and **cost-effectiveness**

HPV Vaccination Drive (2024): Proposed in Feb 2024 as Interim Budget 2024-25, govt. aims to encourage **vaccination for girls aged 9 to 14 years**

India plans to roll out the vaccination drive in **three phases over three years**



Research Questions

1. What is the level of knowledge about CC, its risk factors, symptoms, and prevention methods among females aged 18 – 50 in Ahmedabad?
2. What are the attitude and practice towards CC screening and its prevention in this population?
3. What barriers do females aged 18-50 in Ahmedabad face in accessing cervical cancer screening and HPV vaccination?

Objectives

- i. To assess the level of knowledge about cervical cancer, risk factors, symptoms, & prevention methods among females aged 18-50 in Ahmedabad
- ii. To understand the attitude and practice towards CC screening and its prevention among females aged 18-50 in Ahmedabad
- iii. To identify the barriers faced by females aged 18-50 in Ahmedabad in accessing cervical cancer screening and HPV vaccination



Review of Literature



1

Knowledge on cervical cancer among Indian women in the state of Gujarat (Nagooran, 2023)

- In rural areas, women were significantly less aware of HPV infection (87.5%), cervical cancer (55%), cervical cancer screening (75%), and the HPV vaccine (95%) compared to their urban counterparts.

3

Cervical cancer awareness and HPV vaccine acceptability among females in Delhi (J. Singh et al., 2018)

- A large portion (85.11%) of respondents were aware of cervical cancer.
- A similar number (84.6%) were open to getting a Pap test.
- Over half (63.14%) approved of the HPV vaccine for their daughters.
- Few were inclined to get the HPV vaccine for themselves.

2

Knowledge, attitudes, and barriers to screening For cervical cancer among women in India (Vora et al., 2020)

- Routine screening for asymptomatic women is largely unrecognized in India.
- A major obstacle to screening is the community's lack of knowledge about CC and HPV prevention and treatment.
- Barriers to screening include cost, perceived risk, fear, and misconceptions

4

Knowledge, Attitude, & Practice on CC & Screening Among Women in India (Taneja et al., 2021)

- Women's awareness of CC is 40.22%
- Early marriage & early sexual activity recognized as risk factors by 32.68% and 23.01%, resp
- The most reported symptoms are intermenstrual bleeding (30.75%) and foul-smelling discharge (28.86%)
- Knowledge, attitudes, and practices regarding CCS are 20.31%, 43.64%, and 13.22%, respectively



Research Methodology



Study Design

Cross-sectional Study

Study Area

Ahmedabad, Gujarat

Study Population

Women aged 18 – 50 yrs.

Sampling Technique

Convenience Sampling

Sample Size

Collected – **321**

Data Collection

Data collected using a structured pre-design questionnaire through an online survey using Google Forms, links were disseminated through social media platforms and personal networks

Inclusion Criteria

Females aged between 18-50 years of age residing in Ahmedabad, Gujarat

Exclusion Criteria

1. Women with mental health issues or cognitive disabilities that could interfere with their comprehension and ability to answer the survey questions.
2. Those unwilling to participate or unable to provide informed consent.

Study Tool

Structured self-administered online questionnaire having four sections- (total 36 questions)

- a) Demographic information of participants
- b) Knowledge about Cervical Cancer and Screening and HPV Vaccination
- c) Perception/ Attitude Towards Cervical Cancer Screening and HPV Vaccination
- d) Barriers To Cervical Cancer Screening & Vaccine

Data Management And Analysis

Collected data refined & structured using Microsoft Excel before being imported into SPSS

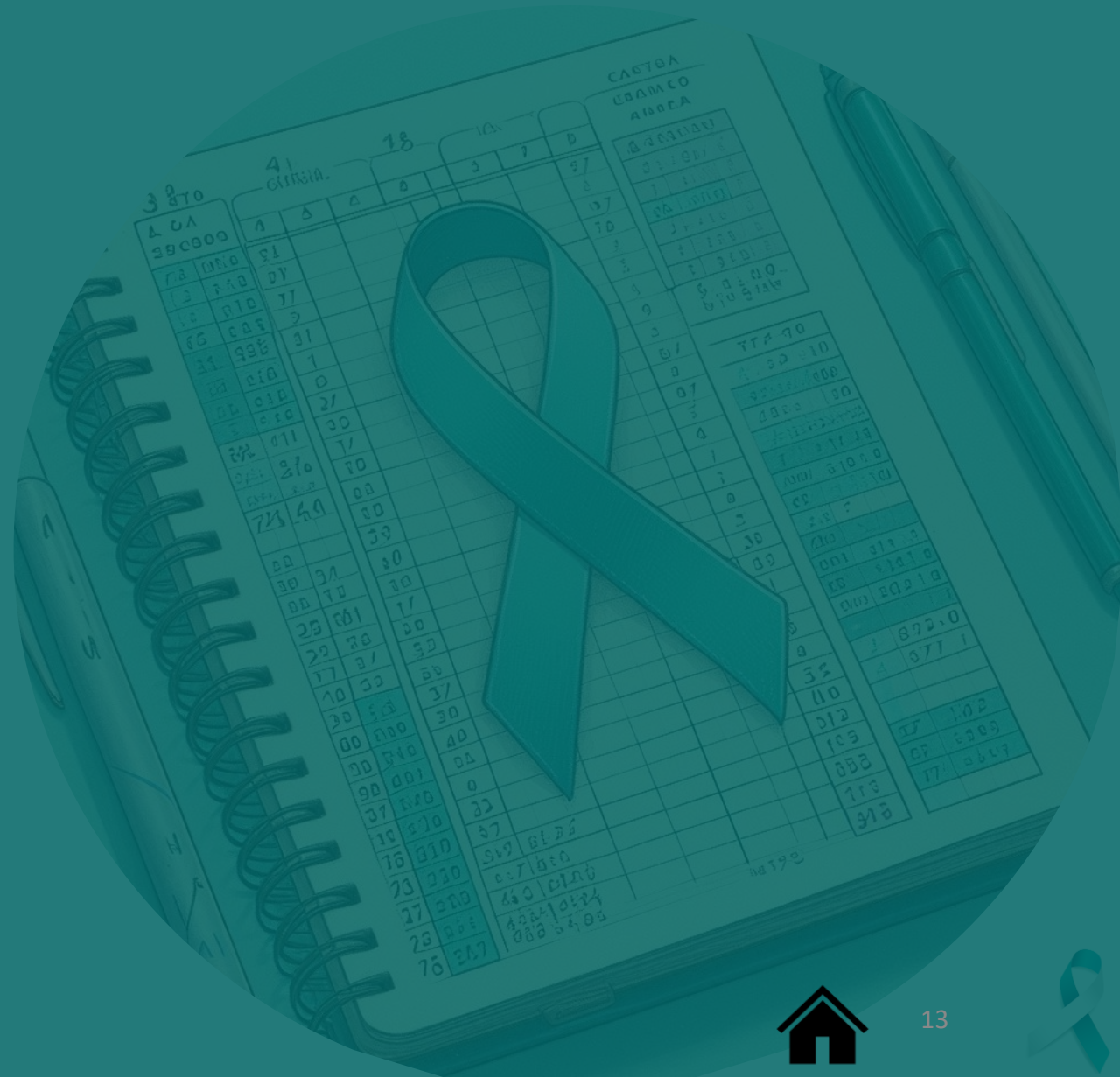
- Descriptive statistics summarized demographic information and levels of knowledge, attitude and practice
- Chi-square tests used to examine associations between demographic variables and knowledge levels, attitude and practice

Ethical Considerations

1. Participation in the study was voluntary, and participants had the right to withdraw at any stage without penalty.
2. Measures were taken to safeguard the privacy and confidentiality of participants' personal information.
3. No personal information was collected, and responses were kept confidential.

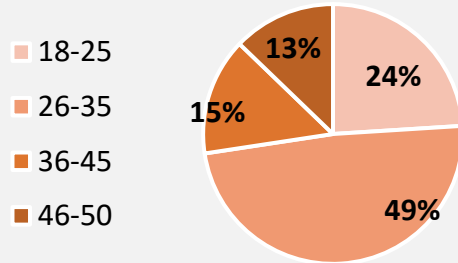


Results and Discussion



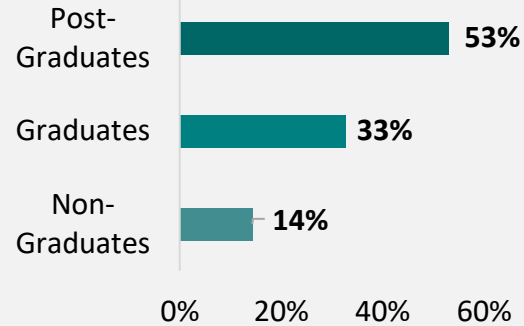
Social Demographic characteristics of the respondents [n = 321]

Age of Respondents



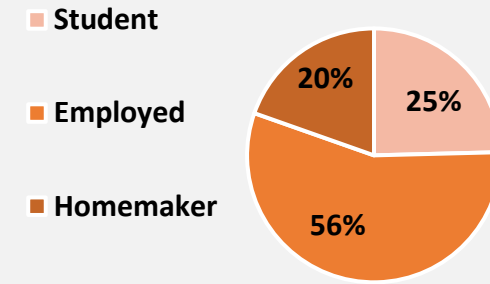
Almost half of the respondents belonged to age group of 25-36

Education



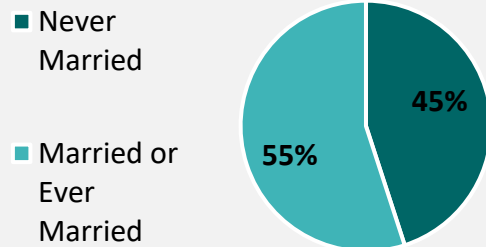
More than half of the respondents were post-graduates

Occupation



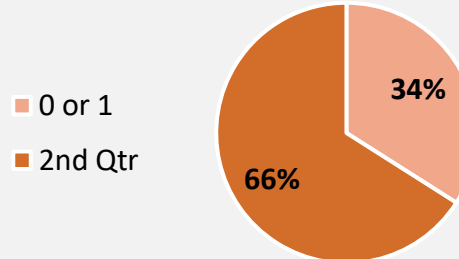
Majority of participants are employed

Marital Status



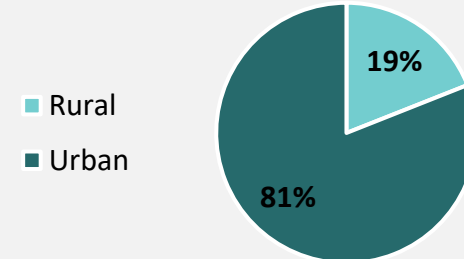
More than half of the were married or ever married

No. of children



Almost half of the respondents belonged to age group of 25-36

Locality



Majority of respondents were living in urban areas



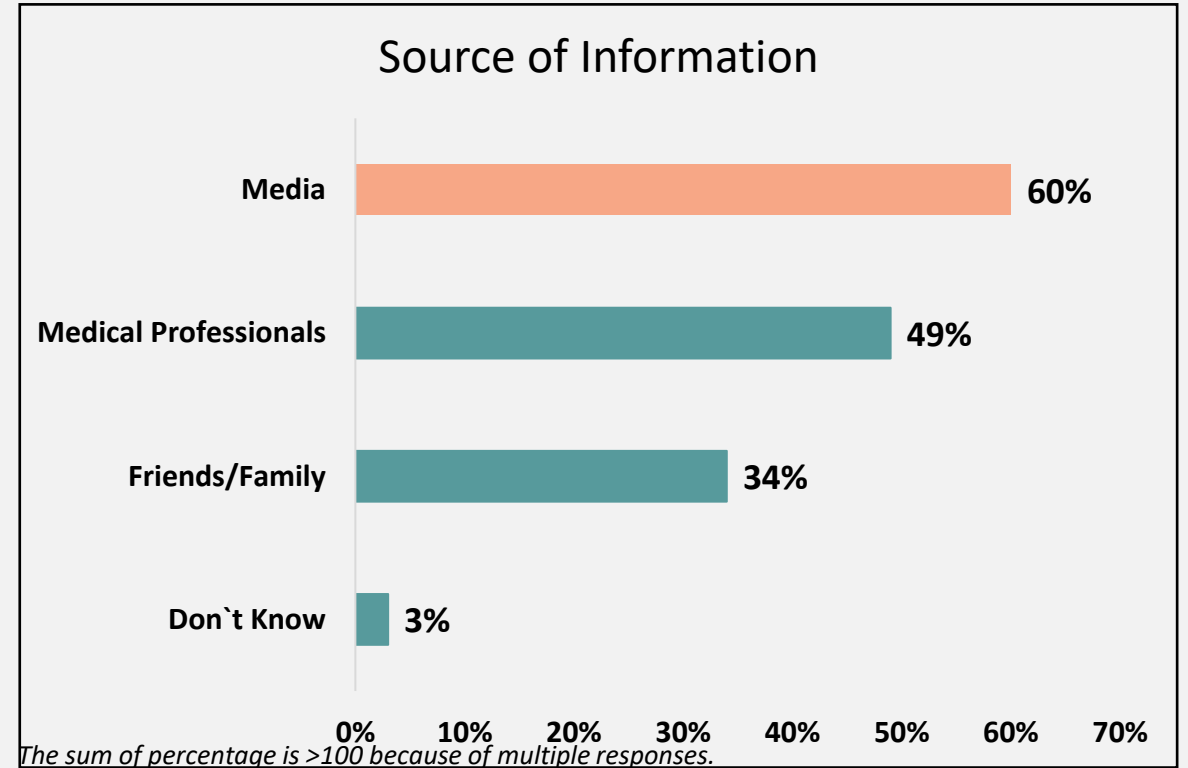
Knowledge of Cervical cancer

Respondents' knowledge about cervical cancer [n = 321]

Knowledge variable	Number (Percentage)
Knowledge score	
Sufficient	146 (45.5%)
Insufficient	175 (54.5%)
Heard about cervical cancer	
Yes	269 (83.8%)
No	52 (16.2%)
Cause of Cervical Cancer	
Yes	180 (56.1%)
No	141 (43.9%)
Heard about HPV vaccine	
Yes	209 (65.1%)
No	112 (34.9%)
Will Screening help in Detection of CC	
Yes	222 (69.2%)
No	99 (30.8%)

- **45.5% have sufficient knowledge about cervical cancer but majority lack adequate information**
- 83.8% have heard of cervical cancer. 56.1% understand the causes of CC
- 65.1% have heard of the HPV vaccine.
- 69.2% recognize that screening aids in early detection of CC

Respondents source of knowledge [n = 269]



Media came out to be the most prevalent source followed by **Friends and family**



Knowledge of Cervical cancer

Knowledge about symptoms, risk factors and preventive methods among respondents [n=269]

Risk factors of cervical cancer	HPV infection	173 (64.3%)
	Poor menstrual hygiene	144 (53.5%)
	Multiple sexual partners	132 (49.1%)
	Family history of cancer	109 (40.5%)
	Cigarette Smoking	57 (21.2%)
	Prolonged use of oral Contraceptives	50 (18.6%)
	Sexual intercourse at early age	46 (17.1%)
Symptoms of cervical cancer	Foul smell discharge	126 (46.8%)
	Bleeding after sexual intercourse	99 (36.8%)
	Bleeding In between periods	99 (36.8%)
	Severe backache and lower abdominal pain	96 (35.7%)
	Post Menopausal bleeding	83 (30.9%)
	Unexplained weight loss	76 (28.3%)
Preventive Methods	Vaccination against HPV	192 (71.4%)
	Regular screening	157 (58.4%)
	Avoid multiple sexual partners	113 (42.0%)
	Avoid early sexual intercourse	60 (22.3%)
	Quit Smoking	60 (22.3%)

HPV infection, Poor Menstrual hygiene and Multiple sexual partners were the three risk factors identified by majority of respondents

The lack of understanding was seen in terms of identifying symptoms as the Foul smell discharge was also identified by only 46% of respondents

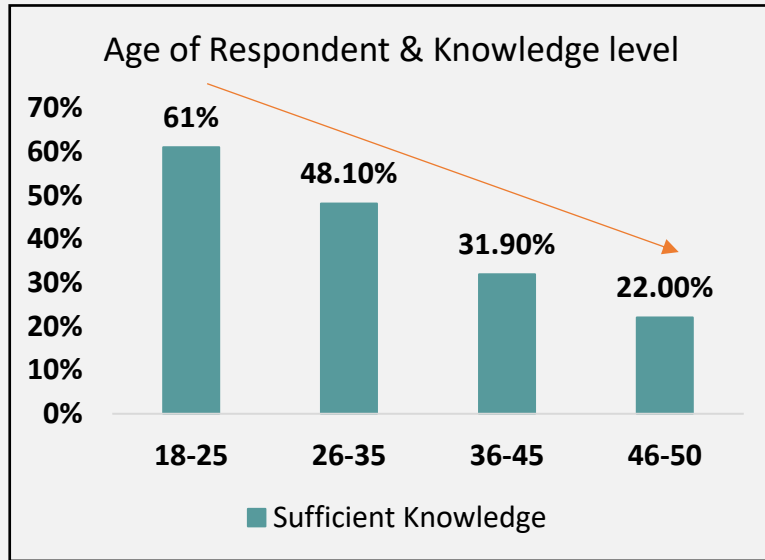
Majority of respondents had knowledge that Vaccination against HPV and regular screening can prevent CC

The sum of percentage is >100 because of multiple responses.

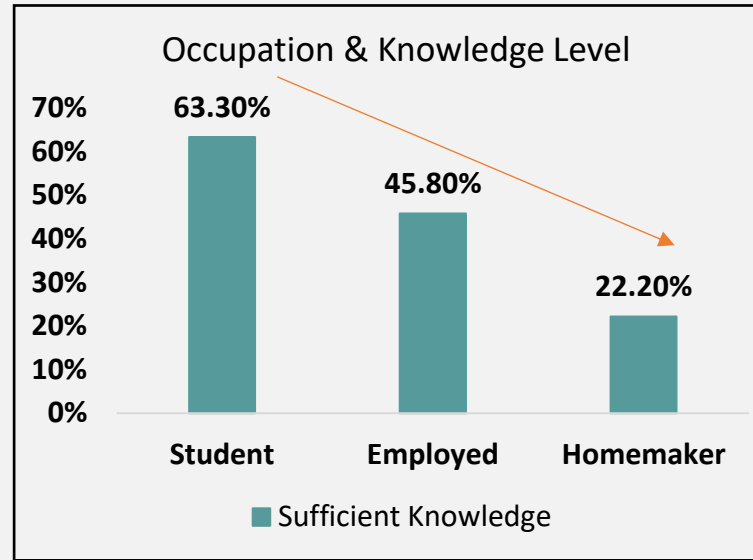


Knowledge of Cervical cancer

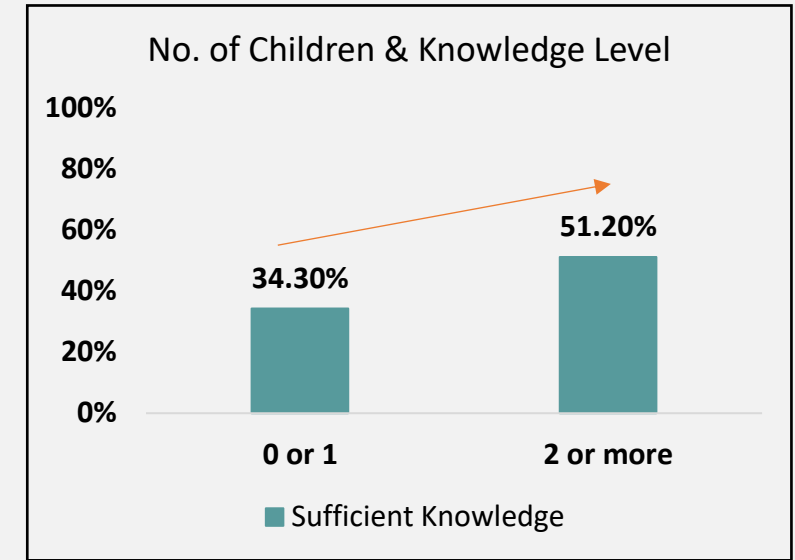
Association between sociodemographic characteristics and knowledge score of CC among women



Younger respondents (**18-25 years**) had a higher % of sufficient knowledge
 % of sufficient knowledge decreased as age increases



Students had the highest percentage of sufficient knowledge followed by employed respondents while homemakers had the lowest



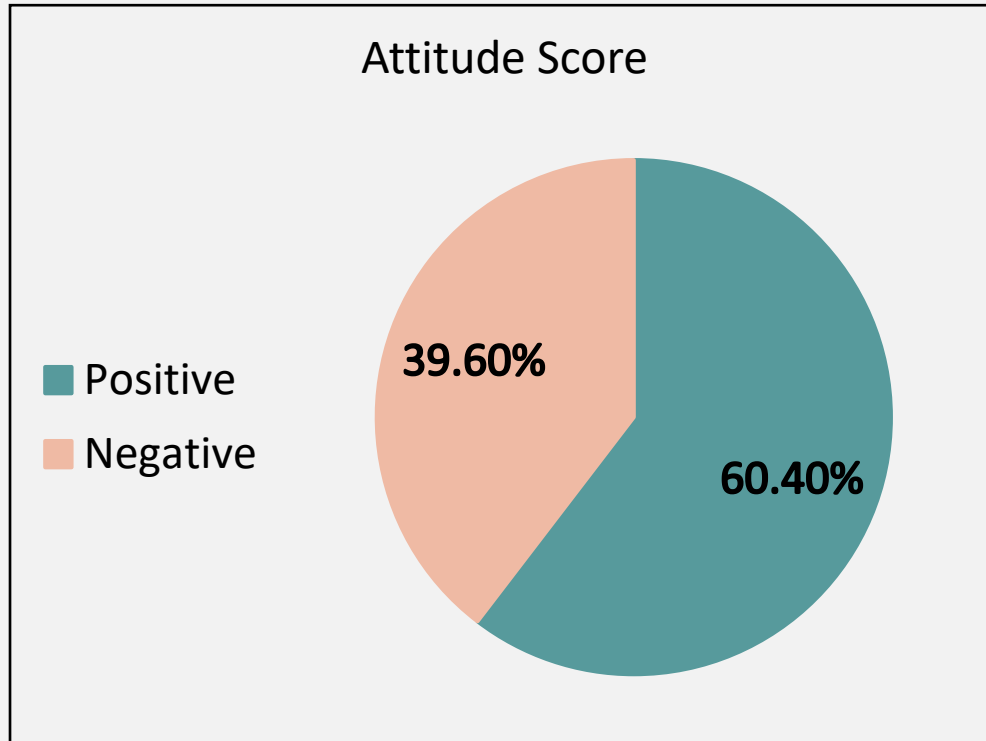
Women with **two or more children** had a higher percentage of sufficient knowledge compared to those with one or no children

Younger age, Student status, and Having two or more children were associated with higher knowledge scores on cervical cancer.

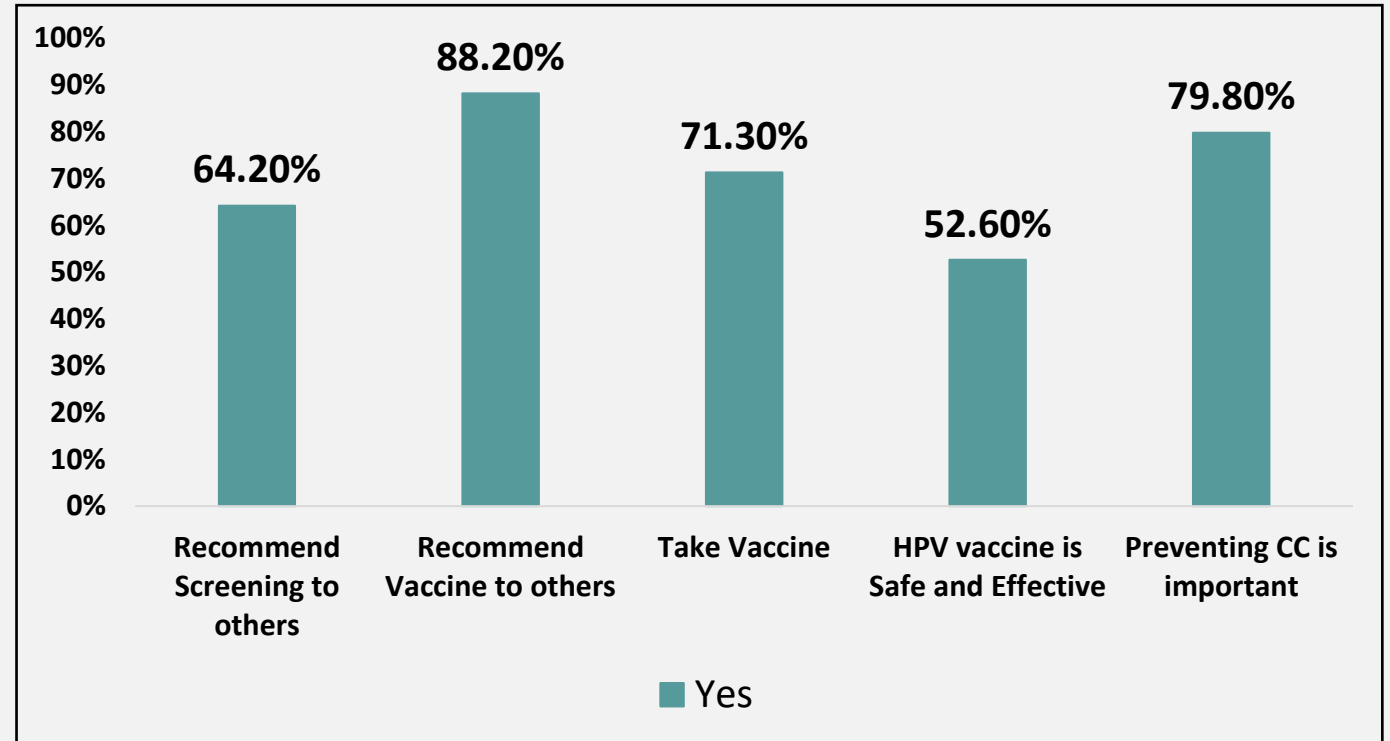


Attitude towards Screening and Vaccination

Respondents' attitude towards screening and vaccination [n = 321]



More than half of respondents have a **positive attitude**



Majority would recommend screening and vaccination to others and were ready to get the vaccine for themselves



Attitude towards Screening and Vaccination

Association between sociodemographic characteristics and attitude score of cervical cancer among women

			Total Knowledge Score	
			Negative	Positive
Age of respondent*	18-25	Number Percentage	21 27.3%	56 72.7%
	26-35	Number Percentage	50 32.1%	106 67.9%
	36-45	Number Percentage	31 66.0%	16 34.0%
	46-50	Number Percentage	25 61.0%	16 39.0%
Highest education of respondent**	Non-graduate	Number Percentage	28 60.9%	18 39.1%
	Graduate	Number Percentage	44 41.9%	61 58.1%
	Post-Graduate	Number Percentage	55 32.4%	115 67.6%
Occupation of respondent*	Student	Number Percentage	17 21.5%	62 78.5%
	Employed	Number Percentage	66 36.9%	113 63.1%
	Homemaker	Number Percentage	44 69.8%	19 30.2%

Type of locality*	Rural	Number	36	26
		Percentage	58.1%	41.9%
	Urban	Number	91	168
		Percentage	71.7%	64.9%
Marital Status*	Never Married	Number	40	105
		Percentage	27.6%	72.4%
	Married or Ever Married	Number	87	89
		Percentage	49.4%	50.6%
No. of Children*	0 or 1	Number	60	48
		Percentage	55.6%	44.4%
	2 or more	Number	67	146
		Percentage	31.5%	68.5%

Younger age, Higher education levels, Being a student, Living in urban areas, Being never married, and Having more children are associated significantly with more positive attitudes towards cervical cancer prevention

*p value <0.001

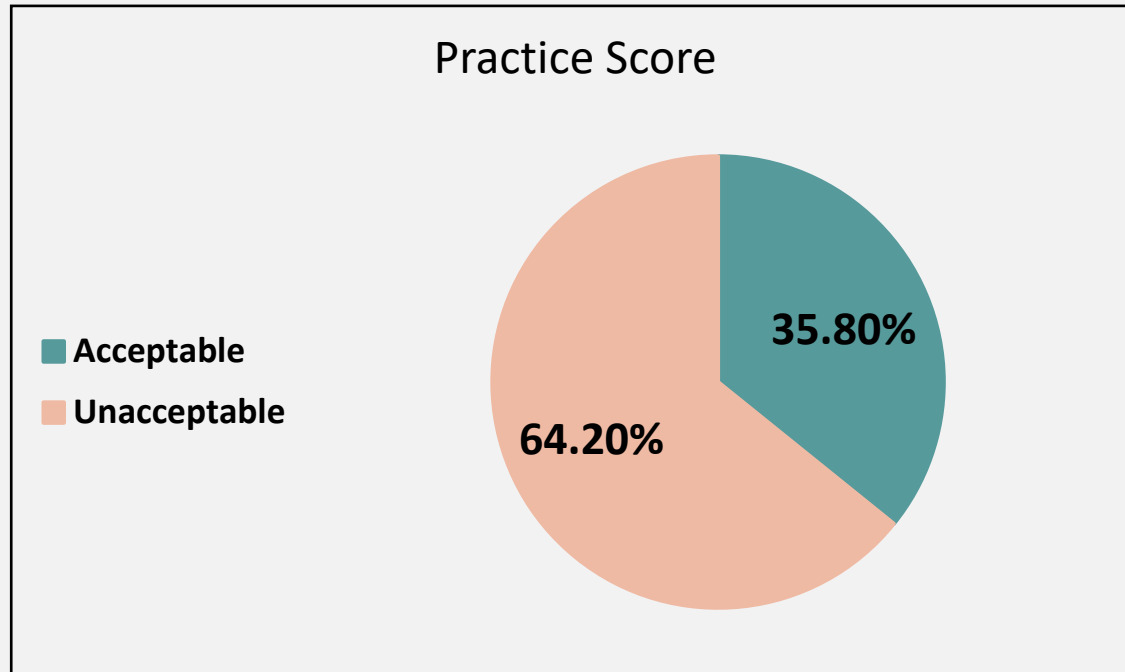
**p value <0.05 but >0.001

Percentage mentioned are column percentage

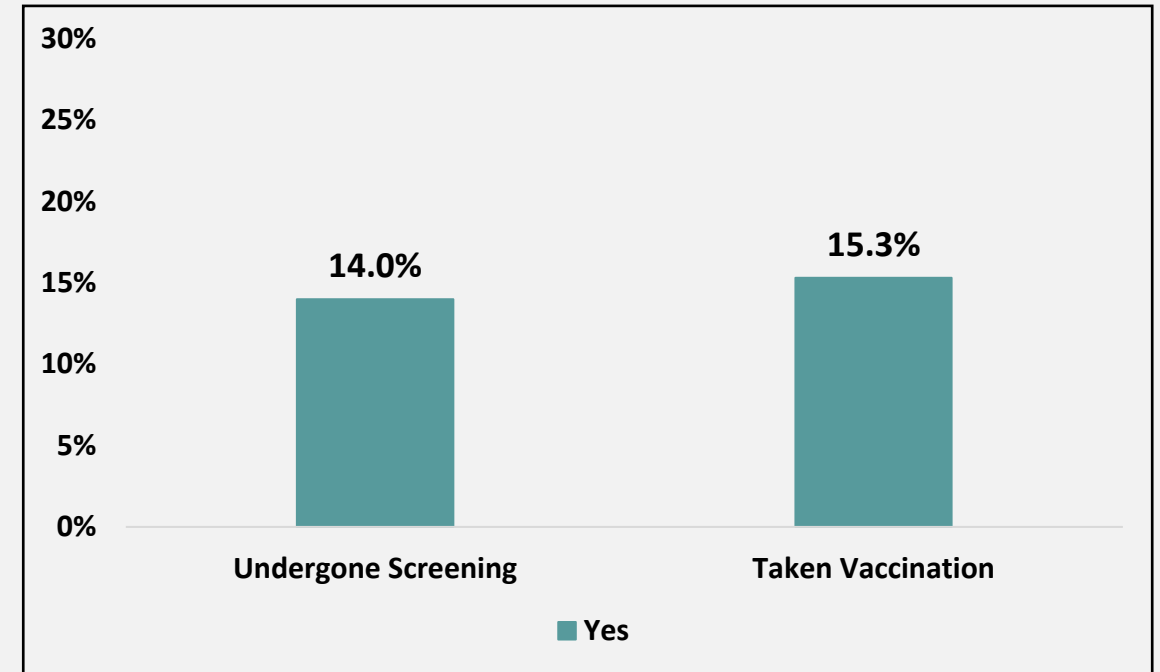


Practice towards Prevention

Respondents' practice towards cervical cancer [n = 321]



More than half exhibited unacceptable practices



Less than two fifth of respondents were practicing preventive methods



Practice towards Prevention

Association between sociodemographic characteristics and practice score towards prevention

			Total Knowledge Score	
			Unacceptable	Acceptable
Age of respondent*	18-25	Number Percentage	44 57.1%	33 42.9%
	26-35	Number Percentage	88 56.4%	68 43.6%
	36-45	Number Percentage	41 87.2%	6 12.8%
	46-50	Number Percentage	33 80.5%	8 19.5%
Highest education of respondent**	Non-graduate	Number Percentage	38 82.6%	8 17.4%
	Graduate	Number Percentage	72 68.6%	33 31.4%
	Post-Graduate	Number Percentage	96 56.5%	74 43.5%
Occupation of respondent*	Student	Number Percentage	38 48.1%	41 51.9%
	Employed	Number Percentage	115 64.2%	64 35.8%
	Homemaker	Number Percentage	53 84.1%	10 15.9%

Type of locality**	Rural	Number	47	15
		Percentage	75.8%	24.2%
	Urban	Number	159	100
		Percentage	61.4%	38.6%
Marital Status**	Never Married	Number	79	66
		Percentage	54.5%	45.5%
	Married or Ever Married	Number	127	849
		Percentage	72.2%	27.8%
No. of Children*	0 or 1	Number	86	22
		Percentage	79.6%	20.4
	2 or more	Number	120	93
		Percentage	56.3%	43.7%

Younger age, Higher education levels, Being a student, Living in urban areas, Being never married, and Having more children are associated with more acceptable practice towards cervical cancer prevention.

*p value <0.001

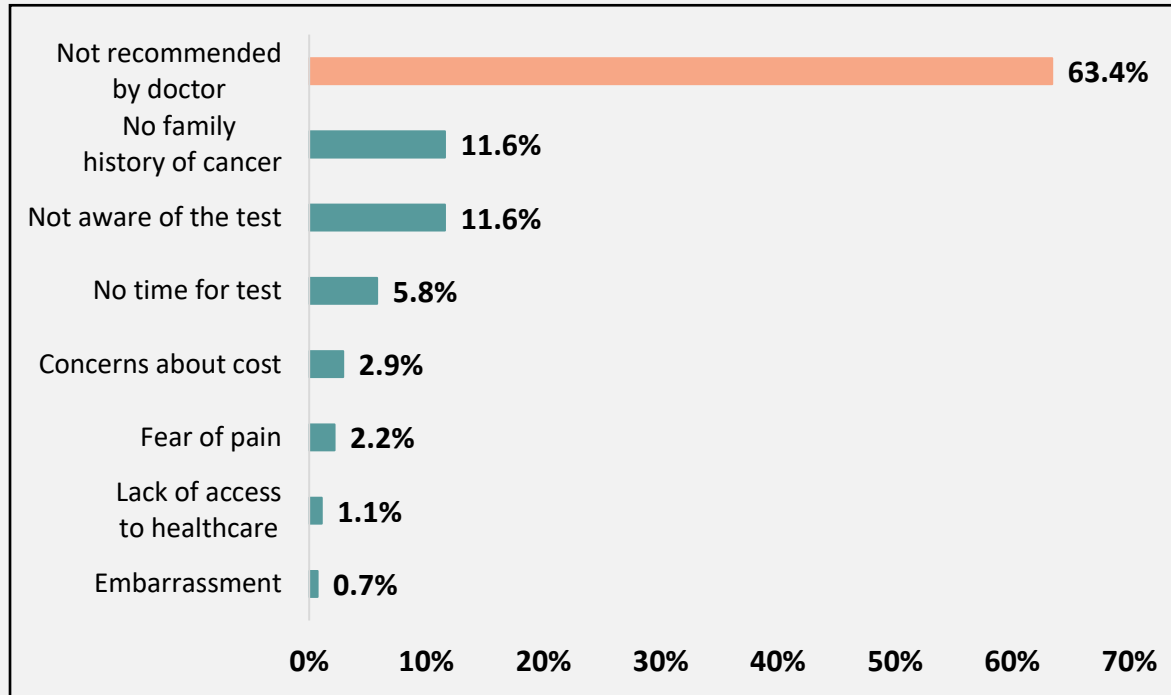
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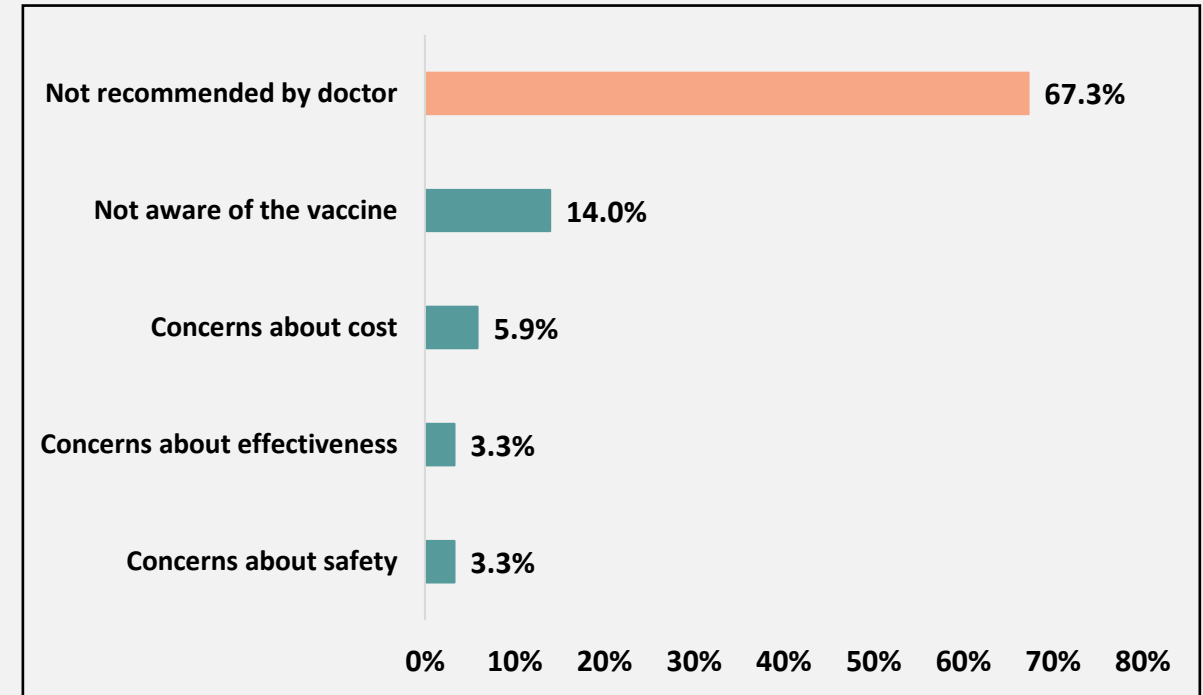


Barriers to cervical cancer screening and HPV vaccine uptake

*Barriers to screening stated by respondents
(Total<100 due to multiple responses)*



*Barriers to HPV vaccination
(Total<100 due to multiple responses)*

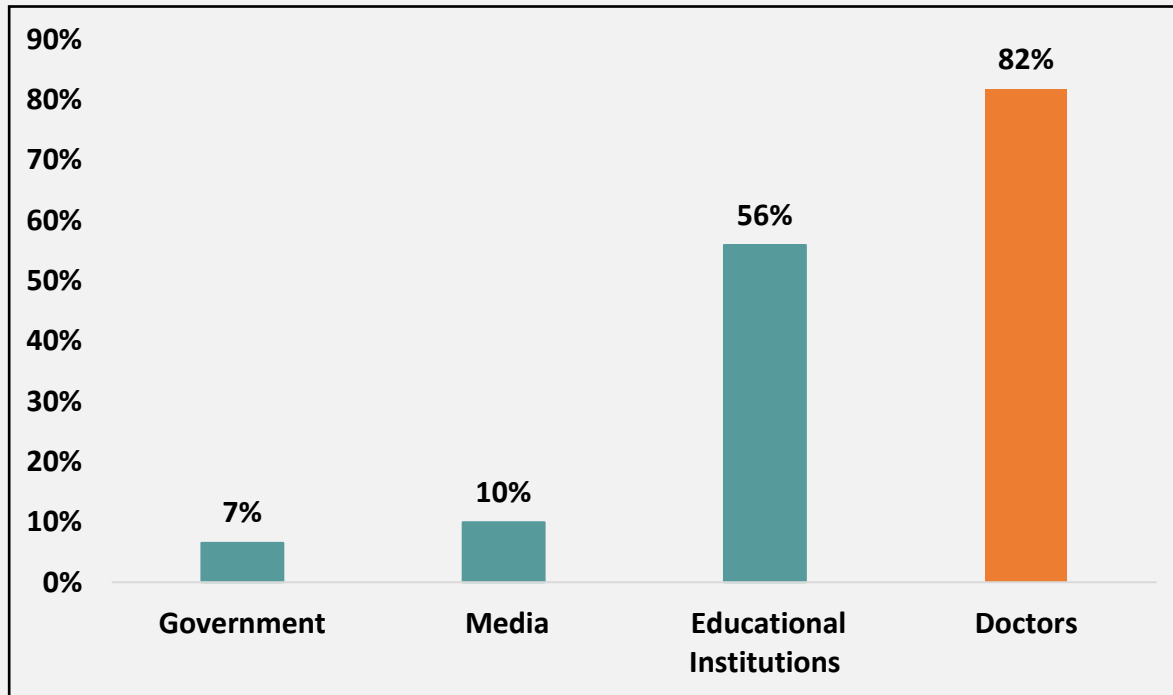


- **Not being recommended by the doctor** was cited as the most common barrier for both screening and vaccination
- **Lack of awareness** was also seen as a major barrier for not practicing preventive methods

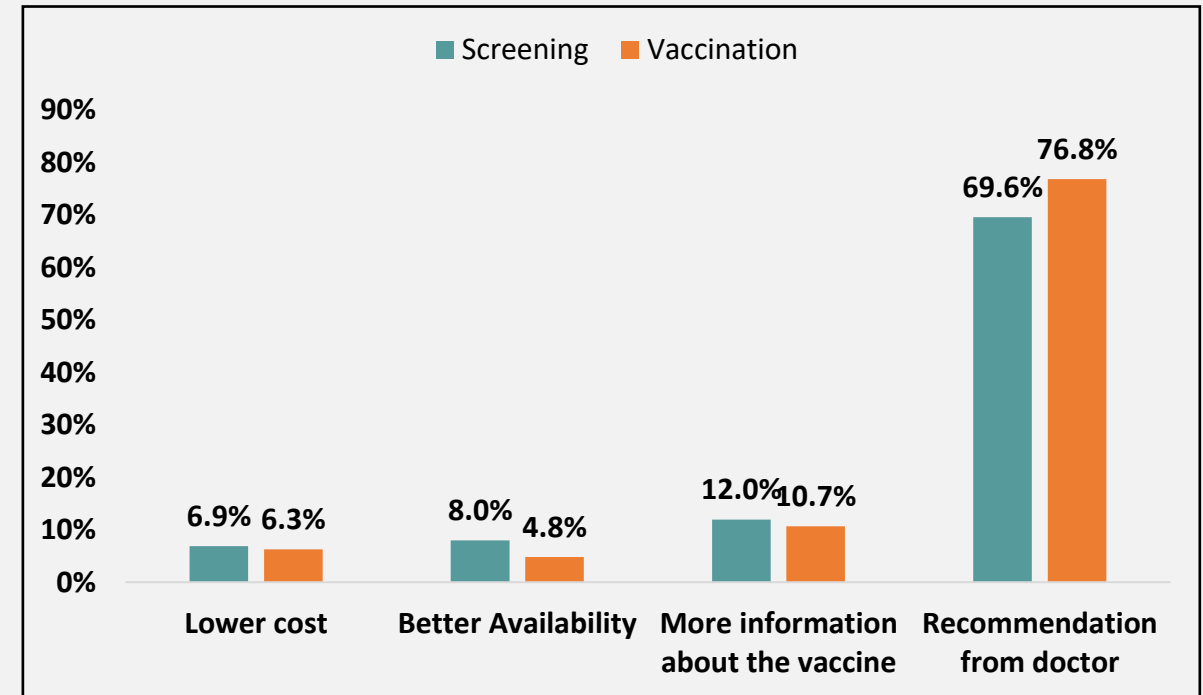


Motivation factors according to respondents

*Preferred mode of information dissemination
(total >100% because of multiple responses)*



*Motivation for women have screening or vaccination
(total >100% because of multiple responses)*



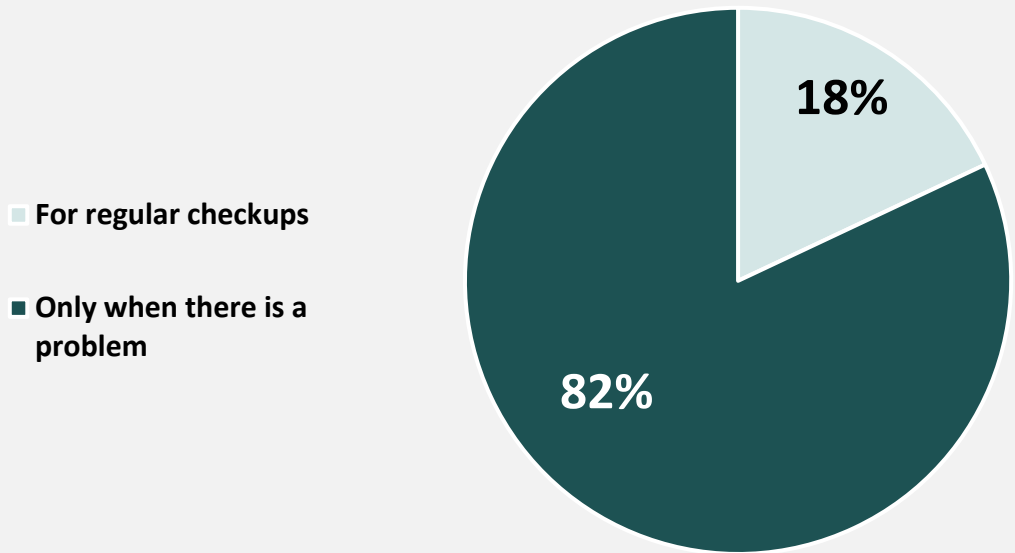
- Majority of women had a preference to receive the information directly from **medical professionals** followed by **educational institutes**

- Recommendation from doctor** was found to be the main motivation.



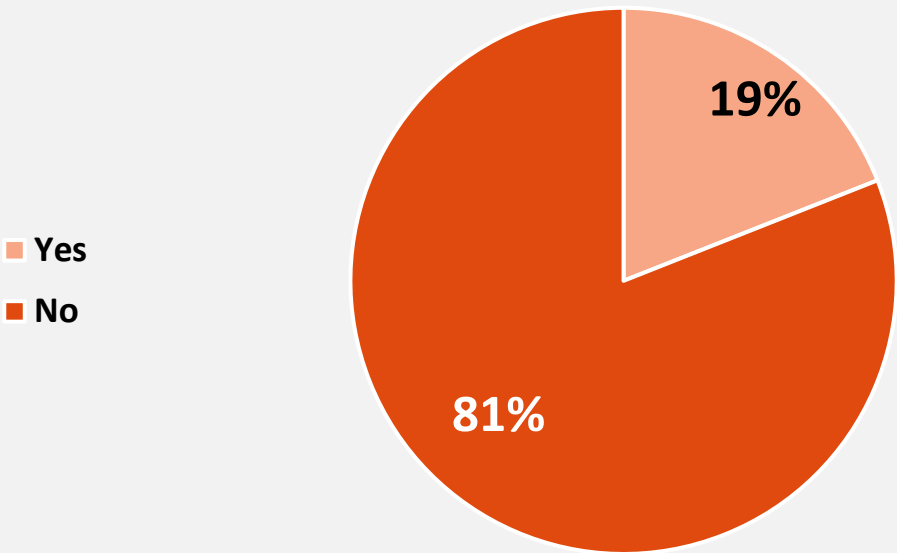
Role of Physicians

Reasons why women visit Gynecologist



- Majority of women visited Gynecologist only when they had any problem

%of women advised by physician to get screened



- Lack of recommendation for screening and vaccination was seen by majority of women



Conclusion

1. A significant gap between awareness and action among the participants

83% Heard of cervical cancer

65% Heard of HPV Vaccine 15% Taken the Vaccination

69% Knew Imp of Screening 14% Undergone Screening

2. Disparities across socio-demographic factors

Sufficient knowledge
Positive attitudes

Younger women (**aged 18-25**), with higher education levels (**post-graduates**), and residing in **urban** areas had.

Insufficient knowledge
Negative attitudes

Older women, with lower education levels (non-graduates), and residing in rural areas

3. Lack of Proactive recommendations from the medical professionals was one of the identified barriers for large number of women

4. Preferred sources of information among the participants, were medical professionals followed by educational institutions

Highlights

- Medical professionals play an important role in health behaviors of individuals
- Efforts to be taken in improving the advocacy by medical professionals to bridge the gap between knowledge and practice
- Increased and enhanced trainings of healthcare professionals on effective communication skills and importance of preventive care can increase the rate and number of screening and vaccination among women



Recommendations



1

Healthcare Provider Engagement

Training and Education of healthcare providers to focus on effective communication & promote proactive recommendations

Standardized Clinical Guidelines

ensure healthcare providers discuss CCS* & vaccination with all eligible women

2

Targeted Educational Campaigns

Consider Demographic Specificity while developing educational campaigns

Partner with educational institutes to include CC** education in the curriculum, organizing discussions on prevention & the importance of regular health check-ups

3

Community Outreach and Partnerships

Engage Community Leaders local organizations to spread awareness about CC** prevention, promote healthy behaviors, & dispel myths
Mobile Clinics and Outreach Programs in underserved areas to provide rural communities with free/subsidized treatment, detection, & vaccination

4

Improving Access and Affordability

Healthcare Accessibility to be Improved to CCS* through effective policies, utilizing insurance or low-cost services whenever possible

Public-Private Partnerships and partnering with NGOs to expand CCS* & vaccination services, reaching a larger population

5

Monitoring and Evaluation

Data Collection by establishing a robust system for M&E of screening & vaccination programs, collecting data by age, edu, locality, & other factors to assess progress & identify barriers

Feedback Mechanism Implementation to gather women's insights on screening & vaccination services



SUMMARY

Introduction



Review of Literature



Research Methodology



Results and Discussions



Recommendation

