

Synopsis

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Title: Knowledge, Attitude and Practice towards Cervical Cancer and Prevention among Females Aged 18-50 in Ahmedabad, Gujarat

1. Introduction:

As per the Global Cancer Observatory Report of 2022, Cervical cancer is the fourth most commonly diagnosed cancer and the fourth leading cause of cancer death among women,¹ but in India, it is the second most common cancer among females² posing a significant public health challenge (Bray et al., 2022). Cervical cancer typically develops early in a woman's life, often during their most active and productive years. This cancer is most common between the ages of 30 and 34, and again peaking between the ages of 55 and 65(Kaarthigeyan, 2012)³. High-risk HPV infections are the primary cause of cervical cancer, with HPV types 16 and 18 responsible for 80% of cases in India (Sankaranarayanan et al., 2019).⁴

In 2020 India accounted for 21% of new cervical cancer cases and 23% of cervical cancer deaths globally making it the country with the largest burden of this disease (Muthuramalingam & Muraleedharan (2023))⁵. Despite the availability of effective screening methods such as HPV DNA testing, Pap smear, and Visual Inspection with Acetic Acid (VIA), the uptake remains low, with 1.9 percent in India and particularly in Gujarat where only 0.2% of women have ever been screened (NFHS-5, 2021)⁶. Cervical cancer, often transmitted through sexual activity, faces cultural stigma in India and the issue is compounded by the country's limited resources for testing, and shortage of skilled healthcare personnel(Think Global , 2023).⁷

The introduction of HPV vaccines, like Gardasil and Cervarix, offers hope for primary prevention; however, these vaccines are not yet part of the National Immunization Program in India. The recent approval of the domestically produced Cervavac vaccine by the Serum Institute of India could potentially increase accessibility and acceptance (IARC, 2022). However, despite these vaccines being reported to be highly immunogenic, safe, well-tolerated, and highly effective in preventing HPV infection, HPV vaccines are still not a part of the Universal Immunization Program.

2. Research Gap

Research results indicate that the majority of cancer research conducted focuses only on knowledge about cervical cancer and its screening methods, with comparatively little attention paid to barriers to avail the services like screening and vaccinations. Specific to India, different studies have been conducted to understand the level of awareness about early signs & symptoms and practices of different screening methods like Pap Smear, DNA testing for HPV and VIA methods. Studies in this aspect are done in various parts of the country and they show diverse results ranging from poor to good knowledge about cervical cancer. But only a few have been done in the state of Gujarat and even fewer in City of Ahmedabad. In view of the above context and because of the limited research specifically focusing on the perceptions, knowledge, and barriers to cervical cancer prevention among females aged 18-50 in Ahmedabad. This study aims to fill this gap by providing detailed insights into the local context, which can inform targeted interventions.

3. Rationale

This study is essential as it will offer extensive insights into the knowledge, awareness, and perceptions regarding cervical cancer and its prevention among women aged 18-50 in Ahmedabad. Identifying the key barriers and obstacles that women in this demographic face in accessing and utilizing cervical cancer prevention measures like screening and vaccination, will help to design and implement more effective public health policies and interventions. These policies could include educational campaigns tailored to address misconceptions, programs to increase accessibility to vaccination and screening, and community-based initiatives to encourage participation in this region.

4. Research Questions

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

5. Objectives

1. To assess the level of knowledge about cervical cancer, its risk factors, symptoms, and prevention methods among females aged 18-50 in Ahmedabad.
2. To understand the perceptions and attitudes towards cervical cancer screening and HPV vaccination among females aged 18-50 in Ahmedabad.
3. To identify the barriers faced by females aged 18-50 in Ahmedabad in accessing cervical cancer screening and HPV vaccination.

6. Outcome Variables

1. **Primary outcome variables :**
 - a. Level of knowledge about cervical cancer, its risk factors, symptoms, and prevention methods.
 - b. Perceptions and attitudes towards cervical cancer screening and HPV vaccination.
2. **Secondary outcome variables :**
 - a. Barriers in accessing cervical cancer screening and HPV vaccination.
 - b. Correlation between the level of knowledge and the attitudes towards cervical cancer screening and HPV vaccination

7. Methodology

Study Design

- A *cross-sectional* survey will be conducted among females aged 18-50 in Ahmedabad using a structured self administered online questionnaire.

Sampling Technique

- Convenience sampling – Snow-balling technique. To circulate the form till the required sample is achieved

Sample size:

- Sample size calculated through the formula $n = \{Z^2 * P(1 - P)\} / d^2$
- Around 384 samples will be selected by taking Z 95%=1.96, P as 0.5, and d=0.05

Inclusion Criteria

- All females aged between 18-45 years of age residing in Ahmedabad, India.

Exclusion Criteria

- Individuals with cognitive impairments or mental health conditions that may hinder their ability to understand and respond to the questionnaire.
- Those unwilling to participate or unable to provide informed consent.
- Participants who have received formal medical education or work in healthcare professions, as their knowledge and awareness may significantly differ from the general population.

Data Collection Procedure

- Data will be collected using a *structured pre-designed questionnaire* through an online survey using Google Forms.
- The survey link will be disseminated through social media platforms, community organizations, and personal networks to reach the target population.

Data Analysis Plan

- Data will be analyzed using *SPSS software*.
- Descriptive statistics will summarize demographic information and levels of knowledge attitude and practice.
- Chi-square tests will be used to examine associations between demographic variables and knowledge levels attitude and practice.
- Logistic regression will identify predictors of positive attitudes towards screening and vaccination.

8. Operational Definition

- **Cervical cancer** is defined as a *malignant tumour* arising from the cervix, typically caused by persistent infection with high-risk strains of human papillomavirus (HPV).
- **Human Papilloma Virus (HPV) infection** – A common *viral infection* that affects skin and mucosa of the body
- **Screening** – A *test or examination* conducted to discover if there is anything wrong with someone.
- **PAP Smear** – Also known as a Pap Test or Papanicolaou Test, is a medical *screening procedure* for detecting pre-cancerous and cancerous cells in the cervix.

9. Ethical Consideration

- Participation in the study will be voluntary, and participants will have the right to withdraw at any stage without penalty.
- Measures will be taken to safeguard the privacy and confidentiality of participants' personal information.
- Participant's comfort in the discussion of diagnoses and treatment options for breast cancer will be also considered.

10. Implications

- The findings of this study can inform the development of targeted educational campaigns, vaccination programs, and healthcare policies aimed at improving cervical cancer awareness and prevention strategies in Ahmedabad.
- By understanding the current perceptions and knowledge gaps, stakeholders can tailor interventions to effectively address the specific needs of the community.

References

¹ <https://gco.iarc.who.int/media/globocan/factsheets/cancers/39-all-cancers-fact-sheet.pdf>

² <https://gco.iarc.who.int/media/globocan/factsheets/populations/356-india-fact-sheet.pdf>

³ Kaarthigeyan K. Cervical cancer in India and HPV vaccination. Indian J Med Paediatr Oncol. 2012 Jan;33(1):7-12. doi: 10.4103/0971-5851.96961. PMID: 22754202; PMCID: PMC3385284.

⁴ Sankaranarayanan, Rengaswamy et al.

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⁵ Muthuramalingam, M.R., Muraleedharan, V.R. Patterns in the prevalence and wealth-based inequality of cervical cancer screening in India. BMC Women's Health 23, 337 (2023). <https://doi.org/10.1186/s12905-023-02504-y>

⁶ https://main.mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf

⁷ <https://www.thinkglobalhealth.org/article/easing-cervical-cancer-disease-burden-india>

Questionnaire For Primary Data Collection

S.No	Question		Options
	DEMOGRAPHIC DATA		
1.	What age bracket do you belong to?	a	18-25
		b	26-35
		c	36-45
		d	46-50
2	What is your education status?	a	Primary schooling
		b	Secondary schooling
		c	Higher Secondary
		d	Undergraduate
		e	Post Graduate
3	What is your occupation?	a	Student
		b	Employed
		c	Homemaker
		d	Other (Specify)
4	What is your Marital Status?	a	Single
		b	Married
		c	Divorced
		d	Widowed
5	How many children do you have?	a	0
		b	1
		c	2
		d	3 or more
6	Have you ever been screened for cervical cancer	a	Yes
		b	No
	Awareness And Knowledge About Cervical Cancer And HPV Vaccination		
7	Have you ever heard of cervical cancer?	a	Yes
		b	No
8	Do you know what causes cervical cancer?	a	Yes
		b	No
9	What are the risk factors for cervical cancer? (Multiple Options allowed)	a	Smoking
		b	Human Papillomavirus (HPV) infection
		c	Multiple sexual partners
		d	Early sexual partners
		e	Early age at first Sexual intercourse
		f	Oral contraceptives
		g	Family history of cervical cancer
		h	Others (specify)
		i	Don't know
10	What are the common symptoms of Cervical Cancer? (Multiple Options allowed)	a	Abnormal Vaginal bleeding
		b	Pelvic pain
		c	Pain during sexual intercourse
		d	Unexplained weight loss
		e	Others (please specify)
		f	Don't Know

11	Do you know how cervical cancer can be prevented?	a	HPV vaccination
		b	Regular screening
		c	Safe sexual practices
		d	Quitting smoking
		e	Others (please specify)
		f	Don't Know
12	Have you heard of HPV vaccine before?	a	Yes
		b	No
13	What is HPV vaccine used for? (Multiple Options allowed)	a	Prevent Cervical cancer
		b	Prevent genital warts
		c	Prevent other cancers caused by HPV
		d	Others (please specify)
		e	Don't Know
14	Who should get the HPV vaccine	a	Girls and Women aged 9-26
		b	Boys and men aged 9-26
		c	Women aged 27-45
		d	Men aged 27-45
		e	Others (please specify)
		f	Don't know
15	Is HPV vaccine safe?	a	Yes
		b	No
		c	Don't know
16	Is HPV vaccine Effective?	a	Yes
		b	No
		c	Don't know
	Perception And Attitude Towards Cervical Cancer Screening And HPV Vaccination		
17	Have you ever undergone cervical cancer screening (Pap Smear)	a	Yes
		b	No
	If no, what are the reasons for not getting screened? (Multiple Options allowed)	a	Lack of awareness
		b	Fear of the procedure
		c	Lack of access to healthcare
		d	Others (please specify)
18	How often do you get a Pap Test?	a	Every year
		b	Every 2 years
		c	Every 3 years
		d	Rarely
		e	Got only once
19	Why do you get Pap Test?	a	Recommended by doctor
		b	Routine checkup
		c	Concerns about cervical cancer
		d	Others (please specify)
20	How do you feel about getting a Pap test?	a	Comfortable
		b	Nervous
		c	Embarrassed
		d	Other (please specify)
21	Would you get the HPV vaccine if it was recommended by your doctor?	a	Yes
		b	No
		c	Maybe
22	What are the reasons that might prevent you from getting an HPV vaccination?(Multiple Options allowed)	a	Lack of Information
		b	Fear of side-effects
		c	Cost
		d	Cultural or religious beliefs
		e	Other (please specify)

[illegible]

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