

A Descriptive Study to Assess the Knowledge Level Regarding Cervical Cancer among Women of Reproductive Age in Selected Rural Area of Bhopal

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Abstract

Cervical cancer is the second most prevalent cancer among women worldwide, especially in developing countries. India accounts for a significant portion of such cases and deaths. This study investigates knowledge levels regarding cervical cancer among reproductive-age women in a rural area in Berasia tehsil of Bhopal district in Madhya Pradesh. Using a descriptive survey approach, 30 women were assessed on their understanding of cervical cancer's risk factors, symptoms, prevention, and screening methods. The study findings show that a majority have only moderate knowledge, with 16.6 percent possessing inadequate knowledge and only 20 percent having adequate knowledge. The research highlights the importance of educational initiatives in enhancing awareness and promoting early detection through regular screening and HPV vaccination. The study suggests community-based interventions led by healthcare providers to bridge this knowledge gap, highlighting the role of nursing in cervical cancer education and prevention.

Key words: Cervical cancer, Reproductive age, Community-based intervention

Cervical cancer remains a critical public health challenge, especially in low- and middle-income countries, where access to preventive care and early screening is often limited. In India, cervical cancer is the most common cancer among women aged 15-44 years. Key risk factors include persistent infection with high-risk types of human papillomavirus (HPV), multiple sexual partners, and prolonged use of hormonal contraceptives. With an estimated 130,000 new cases annually in India alone, cervical cancer is responsible for approximately 20 percent of all cancer cases among women in the country. Early detection and treatment are crucial since cervical cancer has a long precancerous period, allowing time for screening and treatment before the disease progresses.

Cancer is being diagnosed more and more frequently in the developing world. In 2021, Cervical cancer was the second most common cancer among women in the world, leading to 90 percent deaths in low and middle-income countries. About 96,922 new Cervical Cancer cases are diagnosed annually in India. This study aimed to assess the knowledge level regarding cervical cancer among women of reproductive age in a selected rural area in Bhopal, India. By

identifying gaps in awareness and understanding of preventive measures, we sought to identify targetted educational interventions that could reduce the incidence and mortality of cervical cancer in this population.

In 2023, the World Health Organisation (WHO) Regional Office in Cairo (Egypt) launched the Regional Cervical Cancer Elimination Strategy for the Eastern Mediterranean at a conference hosted by WHO leaders and, and joined by cervical cancer surviving women, advocates fighting the disease, and high-level speakers. The event introduced the "90-70-90" targets set by the strategy: for countries to achieve 90 percent HPV vaccination coverage for girls by age 15, 70 percent screening coverage for women by ages 35 and 45, and 90 percent treatment for cervical pre-cancer and management for women with cancer by 2030.

Objectives

The study was carried out to:

- Assess the level of knowledge regarding cervical cancer among women of reproductive age in selected rural areas.
- Associate the level of knowledge on cervical cancer among women of reproductive age with their selected demographic variables.
- Disseminate information pamphlet level of knowledge regarding cervical cancer among

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women of reproductive age group in selected rural areas.

Review of Literature

As per studies of Smitha & Rebecca B Perkins^b in 2022, and further findings of Richards et al (n.d.) there are low rates of guideline-adherent cervical cancer screening across all sectors. Data indicate that rates of guideline-adherent cervical cancer screening have declined steadily between 2005 and 2019 (Suk et al, 2022), who found that rates of guideline-adherent screening per US Preventive Services Task Force recommendations declined from 86 percent to 77 percent from 2005 to 2019. The lowest screening rates were observed among non-white, under-insured, rural, and non-heterosexual women (Suk et al, 2022). We are already witness to the impacts of lower screening rates on cervical cancer diagnoses. National data indicate that the annual number of cervical cancers diagnosed in the US has not decreased in two decades, and late-stage diagnoses represent an increasing proportion of cases.

Methodology

In the present study, the investigators adopted a survey approach in which the investigator gathers data for examining its characteristics, opinions and intentions. A descriptive design was used to assess the knowledge towards cervical cancer in the rural community. The study population consisted of women in the reproductive age group of (14-50 years) selected from rural areas are of Berasia, a tehsil of Bhopal district in MP. The sample size consisted of 30 women in the reproductive age group. Convenient sampling technique was adopted in the study.

Study variables: Dependent variable – Knowledge of reproductive age group of women on cervical screening; Independent variable – Women in the reproductive age group at the selected rural area of Berasia, district Bhopal.

Data Collection Tool

Data were collected using a structured questionnaire divided into two sections:

Demographic data: Age, religion, education, occupation, marital status, monthly income, type of family, number of children, type of house, and family history of cervical cancer.

Knowledge assessment: Thirty items assessing knowledge about cervical cancer's risk factors, symptoms, prevention, and screening.

Data Analysis

The data collected were tabulated, organised, analysed in terms of demographic variables,

frequency and percentage distribution of women's knowledge towards cervical cancer and level of knowledge of women on cervical cancer through a structured questionnaire (Tables 1-3).

Table 1: Frequency and percentage distribution of reproductive age group women in terms of demographic characteristics

S. No.	Demographic variables	Frequency	Percentage (%)
1	<i>Age (in years)</i>		
	14 - 23	02	6.6
	24 - 33	08	26.6
	34 - 43	10	33.3
	44 – 50	10	33.3
2	<i>Religion</i>		
	– Hindu	28	93.3
	– Muslim	02	6.6
	– Christian	00	00
	– Sikh	00	00
3	<i>Educational status</i>		
	– Illiterate	03	13.3
	– Primary	04	10
	– Secondary	08	26.6
	– Higher secondary	12	40
	– Graduation	03	10
4	<i>Employed in</i>		
	– Government	02	6.6
	– Private	05	16.6
	– Daily wages	17	56.6
	– Housewife	06	20
5	<i>Marital status</i>		
	– Married	27	90
	– Unmarried	03	10
	– Widow	00	00
6	<i>Monthly income (in Rs)</i>		
	– 3000-5000	12	40
	– 5001-7000	07	23.3
	– 7001-10,000	10	33.3
	– Above 10,001	01	3.3
7	<i>Type of family</i>		
	– Nuclear	14	46.6
	– Joint	16	53.4
8	<i>Number of children</i>		
	– Not yet	02	6.6
	– 1	03	10
	– 2	07	23.3
	– 3 or above	18	60
9	<i>Type of house</i>		
	– Kaccha house	11	36.6
	– Pucca house	19	63.4
10	<i>Family history of cervical cancer</i>		
	– Yes	01	3.3
	– No	29	96.6

Table 1 shows that:

- Most of the subjects (33%) were in the group of 44-50 years, 33.3 percent were between 34-43 years, and 26 percent were in the group of 24-33 years; remaining 6.6 percent were between the ages 14-23 years group.
- With regard to religion, most of the population (93.3%) were Hindu religion, 0 from the population were Sikh and Christian.
- About the education status of women, 40 percent were higher secondary, 26.6 percent were secondary, 13.3 percent were illiterate, 10 percent primary and graduation each.
- The majority of women (56.6%) were in daily wages, 20 percent were household, 16.7 percent were in private job and 6.7 percent in government job.
- Regarding the marital status, most of the subjects are women, 90 percent were married, 10 percent were unmarried, and 0 were widowed.
- The monthly income of women of 40 percent was Rs 1000-5000, 33.3 percent were in the range Rs 7001-10,000, 23.3 percent were earning Rs 5001-7000, and 3.3 percent were earning Rs 10,000.
- The majority of women (53.4%) belonged to a joint family and 46.6 percent belonged to a nuclear family
- Majority of women (60%) had 3 or more children, 23.3 percent women had 2 children, 10 percent women had 1 child, and the remaining 6.6 percent women had no children.
- The data revealed that a majority of women (63.4%) lived in pucca houses, and 36.6 percent of women were living in kachha houses.
- Most of women (96.6%) had no family history of cervical cancer, and 3.3 percent women had having family history of cervical cancer.

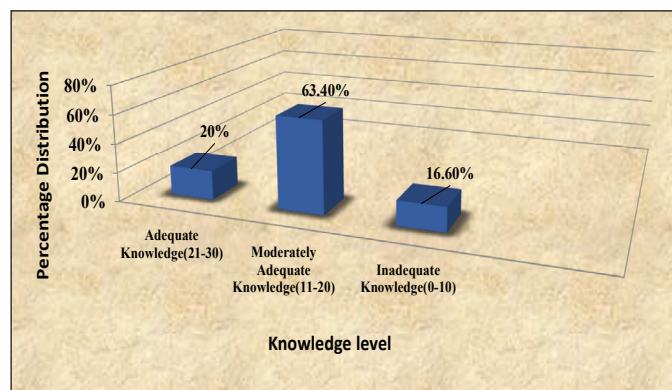
Frequency and percentage distribution of women

Table 2: Frequency and percentage distribution of women's knowledge towards cervical cancer

S. No.	Variables	Frequency (f)	Percentage (%)
1	Adequate knowledge (21-30)	6	20
2	Moderately adequate knowledge (11-20)	19	63.4
3	Inadequate knowledge (0-10)	5	16.6

Fig 2 shows that the majority of women, at 63.4 percent, had moderately adequate knowledge, 20

Fig 2: Knowledge level of women towards cervical cancer



percent had adequate knowledge, and 16.6 percent had inadequate knowledge.

Knowledge on Cervical cancer through a structured knowledge questionnaire association value showing the relationship of the knowledge of women in the reproductive age group in rural areas with selected factors, with the help of the chi-square test

Table 3 indicates that a significant relationship exists between religion, marital status, monthly income, types of family, types of houses and family history of cervical cancer of women at reproductive age group as indicated by chi - square values of 1.8579, 6.7, 5.373, 1.98533, 3.98 and 0.5991, which is significant at 0.05 level.

Discussion

The study found that most women had only moderate knowledge of cervical cancer, with gaps in understanding risk factors, symptoms, and prevention methods. These findings are consistent with previous research, which indicates limited awareness and access to cervical cancer information and services among rural populations in India. Cultural and socioeconomic barriers further restrict access to early screening, putting women at a heightened risk for late-stage diagnosis.

The lack of awareness of HPV as the primary cause of cervical cancer highlights a critical need for education on sexually transmitted infections (STIs) and their role in cancer development. HPV vaccination, which has been shown to significantly reduce cervical cancer incidence, is also underutilised in this population due to limited knowledge and accessibility.

Implications

Nursing practice - The most important role of a nurse is working, in any health field, to provide awareness to the community regarding early detection and prevention of cervical cancer. The nurse plays an

Table 3: Knowledge of reproductive age women about cervical cancer as assessed with the help of chi-square test

S. No.	Selected variables	Inadequate (0-5)	Moderate (6-10)	Adequate (11-15)	d (f)	Chi-square value (χ^2)
01	Age (in years) – 14 -23 – 24-33 – 34-43 – 44-50	2 1 0 2	0 8 5 6	0 2 3 1	6 NS*	13.7378
02	Religion – Hindu – Muslim – Christian – Sikh	4 1 0 0	18 1 0 0	6 0 0 0	6 S*	1.8579
03	Education status – Illiterate – Primary – Secondary – Higher secondary – Graduation	0 0 1 2 2	2 3 5 8 1	2 1 1 2 0	8 NS*	19.589
04	Employment status – Government – Private – Daily wages – Housewife	1 0 2 2	1 3 12 3	0 1 5 0	6 NS*	12.751
05	Marital status – Married – Unmarried – Widow	2 3 0	16 3 0	6 0 0	4 S*	6.7
06	Monthly income (In Rs) • 1000-5000 • 5001-7000 • 7001-10000 • Above 10000	4 0 1 0	6 5 7 1	2 2 2 0	6 S*	5.373
07	Types of family • Nuclear • Joint	4 1	11 8	2 4	2 S*	1.98533
08	Number of children • Not yet • 1 • 2 • Above 3	1 1 1 2	1 1 4 13	2 1 2 1	6 NS*	42.476
09	Types of houses • Kachha • Pucca	4 1	6 13	2 4	2 S*	3.98
10	Family history cervical cancer • Yes • No	0 5	1 18	0 6	2 S*	0.5991

Chi-square value is significant at 0.05 level.

df (8) =15.51, df (6) = 12.59, df (4) = 9.49, df (2) = 5.99

important role in disease prevention & health promotion.

Nursing education - The nursing curriculum should emphasise imparting health information to the community using different teaching methods. Nursing students should be educated on health promotion and disease prevention through early detection of cervical cancer. All students should be encouraged to provide information to the client and the community, for which they should be properly prepared.

Nursing administration - Nursing administration should plan and organise continuing nursing education programmes on require efficient teamwork. Planning for man, money, and material for a successful education programme including prevention of cervical cancer needs to be done.

Nursing research - Cancer is a silent killer, the leading cause of morbidity and mortality, which should be eradicated at its root through an early detection programme. There is a great need for nursing research, particularly about the prevention of cervical cancer. Health-related studies need to concentrate on behaviour modification of people by developing a distinct teaching programme.

Recommendations

- Implementing community-based programmes to improve cervical cancer awareness in rural areas, focusing on risk factors, symptoms, and preventive methods.
 - Regular screening access: Establishing accessible and affordable screening facilities, and encouraging routine check-ups as part of women's health services in rural areas.
 - Further research with larger sample sizes and in different demographic regions to provide more generalisable results.
4. HPV Vaccination Promotion: Collaborating with healthcare agencies to increase HPV vaccination coverage in rural communities.
 5. Enhanced nursing curriculum to emphasise cervical cancer prevention in nursing education and prepare nursing students for community health education roles.

Limitations

This study was limited by its small sample size and single-location focus, which may affect the generalisability of results. Additionally, the

convenient sampling technique may introduce selection bias. Future studies should consider random sampling and larger sample sizes for more robust data.

Conclusion

The study highlights the need for improved cervical cancer education and prevention efforts among rural women in India. With 63.4 percent persons demonstrating only moderate knowledge, there is a clear gap in awareness that could be addressed through targetted community-based interventions and increased access to screening services. Nurses can play a pivotal role in facilitating these educational efforts, helping bridge the knowledge gap and promoting early detection practices that could significantly reduce cervical cancer mortality in this high-risk population.

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