

<https://doi.org/10.48047/AFJBS.6.15.2024.11119-11132>



African Journal of Biological Sciences

Journal homepage: <http://www.afjbs.com>



Research Paper

Open Access

Assessing Knowledge, Attitude, and Practices Regarding Cervical Cancer among Adult Women and the Need for Awareness Programs

Pramod Kumar Adusumilli¹, Keerthana Venkat V², Ashwin K², Sabari Akilesh², Bhavatharini Sukumaran³, Deepalakshmi Mani^{4*}

1. Associate Professor, Department of Pharmacy Practice, Chebrolu Hanumaiah Institute of Pharmaceutical Sciences.

2. Pharm D Intern, JSS College of Pharmacy, Nilgiris, Tamil Nadu, India

3. Research Scholar, Department of Pharmacy Practice, JSS College of Pharmacy, JSS Academy of Higher Education & Research, Ooty, Nilgiris, Tamil Nadu, India

3. Assistant Professor, Department of Pharmacy Practice, JSS College of Pharmacy, JSS Academy of Higher Education & Research, Ooty, Nilgiris, Tamil Nadu, India

***Address for Correspondence: Dr. M. Deepalakshmi,**

Assistant Professor,
Department of Pharmacy Practice, JSS College of Pharmacy, Ooty, India

Phone:9994974663

E-mail: deepapharmacy@jssuni.edu.in

Volume 6, Issue 15, Sep 2024

Received: 15 July 2024

Accepted: 25 Aug 2024

Published: 25 Sep 2024

doi: [10.48047/AFJBS.6.15.2024.11119-11132](https://doi.org/10.48047/AFJBS.6.15.2024.11119-11132)

ABSTRACT:

Introduction:

The majority of occurrences of cervical cancer are preventable with accessibility to the HPV vaccine and early diagnosis through screening. Unfortunately, >95% of women in India have never had a cervical cancer screening, despite the fact that there are preventative measures available.

Objective:

To assess the degree of knowledge, attitude, and practice about cervical cancer and screening among women attending the obstetrics and gynecology department of a tertiary care hospital in Andhra Pradesh.

Methodology:

This hospital-based cross-sectional study included 650 women aged 18 and above who visited the Obstetrics and Gynecology outpatient department at a tertiary care hospital in Andhra Pradesh from October 2019 to March 2020. A prevalidated questionnaire was used to interview study participants. A 15-point scale was employed to test knowledge, and Bloom's cut off points were utilized to define knowledge levels. Women with a positive attitude were defined as those who scored 50% or higher on a Likert scale for eight statements about cervical cancer. The practice was evaluated by obtaining a history of screening and HPV immunization.

Results:

Only 18.9% of the study participants had heard of cervical cancer, and only 10.6% had moderate or good knowledge of the disease. All of the women who learned about cervical cancer had a positive attitude regarding the disease and its screening. None of the study participants had received HPV vaccine, and only 1.5% had received screening in the previous three years. Socio-demographic factors were shown to be substantially related to knowledge level.

Conclusion:

Participants in the study had relatively poor knowledge of cervical cancer. Though the attitude was positive, it was not translated into practice.

Key words: Cervical cancer, knowledge, attitude, practice, screening

INTRODUCTION:

In the world, cervical cancer is the fourth most prevalent cancer in women, accounting for 12% of all cancers in women (1). According to the Global Cancer Observatory 2020 (GLOBOCON 2020), an estimated 604,127 new cases and 341,831 deaths were caused by cervical cancer worldwide (2). Recent evidences and studies focusing on the incidence and prevalence of cervical cancer are lacking in India, whereas Sreedevi et al., 2015 reported in their epidemiological study that each year in India, approximately 122,844 women are diagnosed and nearly 67,477 die from cervical cancer disease (3), comprising around 10% of all cancer-related fatalities in Indians (4). Given India's fast rising population, the overall burden of cervical cancer incidence and mortality is expected to rise by 68% and 78%, respectively, by 2030 (5).

Cervical cancer is a malignant neoplasm that develops from cells in the cervix uteri. Early on, it may be completely asymptomatic (6). It may show as persistent pelvic pain, unexplained weight loss, bleeding between periods, atypical vaginal discharge, bleeding, and pain after sexual intercourse in its severe stages (7). Human papillomavirus (HPV) types 16 and 18 infection is the leading cause of 75% of cervical cancer worldwide (8). In addition to HPV, other risk factors include cigarette use, multiple sexual partners, early intimacy, increasing parity, prolonged use of oral contraceptives, sexually transmitted diseases and more (9). Most occurrences of cervical cancer are now avoidable, thanks to HPV vaccination availability and early screening identification. The Papanicolaou (Pap) smear test has been credited with significantly lowering the frequency of cervical cancer cases in developed countries (10). Unfortunately, despite the availability of screening and vaccination procedures for prevention, more than 95% of women in India have never been examined for cervical cancer and have never had HPV vaccine (11). Low levels of awareness and knowledge about risk factors, early signs and symptoms, prevention services, stigma and misconceptions about female cancer and other gynecological diseases, socioeconomic constraints, and a general lack of national cervical cancer screening guidelines and policies are the main barriers to women's cervical cancer screening uptake (12,13,14).

Landy et al., 2016 showed in their study that earlier screening with the PAP test resulted in a significant reduction in mortality in developed countries (15). However, in India, screening is used at a rate of 2.6%-5% (16). Because of a lack of awareness, particularly among rural women, and the occasional implementation of awareness programs by the government and other health care workers, cervical cancer diagnosis in countries such as India is frequently based on opportunistic screening or post-symptom development. Cervical cancer screening is critical because women frequently do not notice symptoms until the illness has progressed. Cervical cancer prevention and control are dependent on disease awareness, screening techniques, and preventive interventions (17).

We conducted this study with the goal of understanding and assessing rural women's knowledge, attitudes, and practices regarding cervical cancer and HPV vaccination, as well as providing evidence of how important it is for health care workers to conduct cervical cancer screening, prophylaxis, and treatment options among women, particularly in rural areas.

1. AIMS & OBJECTIVES:

1.1 Aim-

To assess the level of knowledge, attitude, and practice about cervical cancer and screening among women attending the obstetrics and gynecology department of a tertiary care hospital in Andhra Pradesh.

1.2 Objectives-

1. To assess the level of knowledge among women about cervical cancer, screening, and prevention.
2. To evaluate women's attitudes on cervical cancer screening and prevention.
3. To learn more about women's screening practices for cervical cancer.
4. To examine the relationship between socio-demographic factors and KAP toward cervical cancer.

2. MATERIALS & METHODS:

2.1 Study Design-

This is a cross-sectional hospital-based survey of outpatients visiting the Department of Obstetrics and Gynecology (OBGYN), NRI General Hospital, Guntur, Andhra Pradesh, India.

2.2 Sample Size-

To determine the sample size for the study, a single population proportion formula was used, which took sample proportion (p) as 38% (prevalence of women with good knowledge about cervical cancer in a study done by G Narayana et al., 2017 in a secondary care referral Hospital of Anantapur district, Andhra Pradesh) with 95% confidence interval, and 5% precision, which was calculated as 627 and rounded off to 630. The following formula is used to compute sample size-

Single population proportion formula-

$$n = (z)^2 p (1 - p) / d^2.$$

Where:

n = sample size.

Z α /2 = normal distribution value at 95% CI (Z = 1.96).

P = the successful proportion of knowledge/attitude (0.61).

d = margin of error (5%).

2.3 Study Duration-

This was carried out over a 6-month period, from October 2019 to March 2020.

3.4 Ethical Approval-

The Institutional Ethical Committee (IEC) of NRI General Hospital and Chebrolu Hanumaiah Institute of Pharmaceutical Sciences, Guntur, approved the study.

3.5 Study Population-

a. Inclusion Criteria-

- Women aged 18 years and above.

b. Exclusion Criteria-

Women who are

- Mentally retarded
- Too ill
- Not consented.

3.7 Source/Collection of Data-

Face-to-face interviews were conducted once eligible patients provided informed consent, using a pre-validated self-designed questionnaire (modified based on previous studies). The questionnaire was available in both Telugu and English. It includes information needed to collect patient socio-demographic details, knowledge of HPV, HPV vaccine, HPV diagnosis and treatment, attitude and practice toward cervical cancer etiology, symptoms, screening, risk factors, preventive measures, screening methods, frequency, treatment modalities, and costs.

Age, gender, locality, religion, caste, marital status, parity, level of education, occupation, and income are among the socio-demographic characteristics covered. Each question used to test knowledge about cervical cancer, screening, and prevention was assigned a point value. A total of 13 knowledge-related multiple-choice questions were created, with each correct answer worth 1 point and each incorrect response worth 0 points. The following points were assigned: awareness of cervical cancer (1 point), symptoms of cervical cancer (2 points for any two correct responses among symptoms such as vaginal bleeding, foul odor discharge, bleeding between periods, and bleeding after intercourse), risk factors for acquiring cervical cancer (2 points for any two correct responses among risk factors such as early sexual intercourse, multiple sexual partners, HPV infection, cigarette smoking, young age at first birth, and prolonged use of oral contraceptives), Preventive measures (2 points for any two correct responses among avoid multiple sexual partners, quit smoking, avoid early sexual intercourse, HPV vaccination, avoid birth at a young age, and avoid use of oral contraceptives), treatment options (2 points for any two correct responses among radiotherapy, chemotherapy, and

surgery), aware of the cost of cervical cancer treatment (1 point), screening methods (1 point for any of VIA, VILI, or Pap Smear), screening method description (1 point), screening eligibility (1 point), screening frequency (1 point), screening location (1 point), and cervical cancer vaccination (1 point). Following the assessment of knowledge points, the original Bloom's cut off points will be used to categorize knowledge levels, with 80%-100% correct responses comprising a score of 13-16 indicating good knowledge, 60%-79% correct responses comprising a score of 10-12 indicating moderate knowledge, and <60% correct responses comprising a score of 9 or <9 indicating poor knowledge.

Eight statements about risk factors and cervical cancer screening will be used to assess attitudes; the statements on Likert's scale have positive and negative responses ranging from strongly agree 5, agree 4, neither agree or nor disagree 3, disagree 2, and strongly disagree 1. The maximum predicted score for all assertions is 40, with a minimum of 8. Women who scored 20 or above will be deemed to have a favorable attitude toward cervical cancer screening, while women who scored 20 or lower will be considered to have a negative attitude toward cervical cancer screening.

The response to cervical cancer screening in the previous three years will be used to evaluate practice. Respondents who were screened within the last three years are deemed to have regular practice, those who were screened more than three years ago are considered to have irregular practice, and those who were never screened are considered to have no practice.

3.8 Questionnaire Pre-validation-

The consistency and suitability of the questionnaire framework were pre-tested on 5% of the sample group. Before collecting data, necessary additions and deletions were performed based on observations and analysis.

3.9. Data Analysis-

The collected data was entered into a Microsoft Excel spreadsheet and analyzed with SPSS version 17. The socio-demographic features and KAP of the study population were represented using descriptive statistics such as mean, standard deviation (SD), frequency, and proportion. The Chi-square test was used to assess the relationship between socio-demographic characteristics and KAP levels. $P < 0.05$ was determined to be statistically significant. The findings were summarized in tables and narratives.

3. RESULTS:

3.1 Participant's Socio-demographic Characteristics:

Table 1: Socio demographic Details of the respondents

Socio demographic details	Frequency (percentage)
Age group in years	
<21	109
21-30	434
31-40	107
Location	
Rural	283
Urban	367
Education	
>High school	298
High school	139
Middle	33
No schooling/ Primary	100
Primary	80
Occupation	
Daily Wage Worker	54
Farmer	9
Home Maker	491
Salaried employee	57
Self employed	20
Student	10
Unemployed	9
Religion	
Christian	151
Hindu	396
Muslim	103
Marital status	
Married	604
Unmarried	40
Widow	6
Caste	
BC	258
OC	186
SC	173
ST	33
Parity	
<=2	468
>2	95
0	87

As shown in table 1 more respondents are from 21-30 age group 434 (66.8%), while >21 age group and 31-40 age group respondents show nearly equal responses 109 (16.8%) and 107 (16.5%). Maximum number of respondents is from urban area 367 (56.5%) while 283 (43.5%) respondents are from rural area. More number of respondents are educated in that 298 (45.8%) were above high school at the same time 100 (15.4%) were uneducated. Of the respondents 491 (75.5%) are belonging to homemakers, only 9 (1.5%) unemployed in their occupation. Out of 650, 396 (60.9%) were Hindu, 151 (23.2%) Christian and 103 (15.8%) Muslim. Almost 604 (92.9%) are married 40 (6.2%) unmarried and 6 (0.9%) are widow. A total of 258 (39.7%) study participants are from BC, whereas OC, SC and ST are 28.6%, 26.6% and 5.1% respectively. More number of the participants had parity <=2 (72.0%) and >2 (14.6%).

3.2 Participant's Knowledge Score regarding Cervical Cancer:

Table 2: Knowledge of the respondents on cervical cancer

Knowledge score	Frequency	Percentage
<9	581	89.4
9-11	34	5.2
>=12	35	5.4
Total	650	100

Out of 650 respondents, 581 had a poor knowledge on cervical cancer with a score range less than 9, moderate knowledge was shown by 34 respondents and 35 participants have a good knowledge with a score range of >=12.

3.3 Participant's Awareness and Knowledge on Cervical Cancer, its Etiology, Symptoms, Risk Factors, its Screening and Prevention:

Table 3: Knowledge about cervical cancer, its screening and prevention among respondents (n=650)

Variable	Frequency (Percentage)
Aware about cervical cancer	123
Source of information	
Media	65
Friends	19
Family members	5
Medical professionals	34
Other sources	10
Knowledge on etiology of cervical cancer	94
Infection	89
Genetically acquired	20
Don't know or others	556

Knowledge on symptoms of cervical cancer (at least one symptom)	89
Abnormal vaginal bleeding- such as a bleeding after intercourse, between periods, heavy menstrual periods, after menopause	69
Pain during intercourse	29
Foul smelling discharge	54
Pelvic pain	20
Urinary urgency	25
Diarrhea	5
Severe backache and lower abdominal pain	44
Weight loss	29
Severe swelling in one or both legs and feet	20
Don't know or others	561
Knowledge of risk factors of cervical cancer (at least one)	88
Having multiple sexual partners	20
Early sexual intercourse	15
Acquiring HPV	39
Cigarette smoking	15
Parity and young age at first birth	4
Use of oral contraceptive over 5 years	15
H/o of sexually transmitted disease	5
Poor menstrual hygiene	63
Multiple pregnancies (> 5)	19
Don't know or others	562
Knowledge on preventive measures of cervical cancer (at least one)	70
Avoid multiple sexual partners	45
Vaccination against HPV	45
Quit smoking	15
Avoid birth at young age	15
Avoid misuse of oral contraceptives	20
Don't know or others	580
Knowledge about screening test of cervical cancer	45
VIA	0
VILI	0
PAP smear	45
Do not know or others	605
Knowledge about persons who must undergo screening	74
Women greater than 21 years	35
All the Women whoever is having risk	34
Elderly women	10
Don't know or others.	576

Knowledge about screening frequency in cervical cancer	20
Once every year	39
Once every three years	20
Once every five years	5
Don't know or others	586
Knowledge about different treatment available to treat cervical cancer	103
Drug therapy	45
Radiotherapy	25
Surgery	68
Don't know or others	547
Knowledge about expenses of treatment of cervical cancer in India	73
Free of charge	14
Somewhat expensive	20
Reasonable price	39
Very expensive	25
Don't know	577
Knowledge about HPV Vaccination	45

Among the 650 participants, only 123 (18.9%) had aware of cervical cancer, the foremost information was provided by media (10%) and medical professionals (5.2%). In 94 respondents, 89 (13.7%) were known as infection is main etiology for cervical cancer. Out of 88 respondents, 63 (9.7%) known that poor menstrual hygiene is one of the risk factors for cervical cancer. Maximum number of respondents believes preventive measures for cervical cancer are avoid multiple sexual partners and taking vaccination agonist HPV. Only 45 (6.9%) answered participants know the Pap test.

3.4 Participant's Attitude and Practices Towards Cervical Cancer:

Table 4: Attitude and practice towards cervical cancer

Attitude score	Frequency (n=123)	Percentage
≥ 12	123	100.0
Practice screening	Frequency (n=650)	Percentage
Past 3 years	10	1.5

The respondents had shown a good attitude and a score range of ≥ 12 in 123 members (100%). Out of 650 participants only 10 (1.5%) people participated in screening in the past 3 years.

4. DISCUSSION:

Having adequate knowledge and awareness of the disease, as well as how to prevent it, is an important component of creating a good attitude toward it. However, cultural norms and socioeconomic status, especially in developing countries, have a considerable impact on inadequate disease screening.

The majority of respondents in this cross-sectional survey were found to be between the ages of 21 and 30, with a good literacy rate. However, the findings revealed that 89.4% of the participants had poor knowledge of cervical cancer. The media was the most common source of information among people who were aware. These findings were similar to those of Kumari et al.'s study in Uttar Pradesh, where the majority of participants had never heard of cervical cancer and got their information from books and media (18).

13.7% of those respondents mentioned an infection, 10.6% stated abnormal vaginal bleeding was a vital indicator of cervical cancer, and 9.7% said poor menstrual hygiene was a big risk factor. These findings contrasted with those of Montgomery et al.'s study in Karnataka, where 50% of the sample population was aware that cervical cancer was transmitted sexually (19).

Receiving an HPV vaccine and avoiding multiple sex partners garnered the highest percentage of replies (6.9% each). The majority of responders (6.9%) were aware of the PAP smear cervical cancer screening test. Despite their poor knowledge, their attitude toward vaccination was usually positive after they were educated about the vaccine and the majority of them agreed that they should receive the vaccine. The attitude toward cervical cancer was assessed to be desirable with a score of 100%. This study was comparable to one conducted by Charakorn et al., who discovered that the HPV vaccine was largely accepted despite participants' poor knowledge (20).

Only 1.5% of the 650 participants had undergone screening in the previous three years, indicating a woefully inadequate cervical cancer screening strategy. This could be related to the economic condition as well as a lack of awareness of the disease.

5. CONCLUSION AND RECOMMENDATIONS:

Despite the fact that the patients attending this health care setting were literate, only one-fourth of the participants were found to be aware of cervical cancer and knowledgeable about its etiology, risk factors, symptoms, screening methods, and treatment, as well as having a positive attitude toward cervical cancer practices. As a result, it is essential to conduct ongoing awareness programs and screening campaigns at all levels of health care settings, educational institutions, workplaces, and so on, as well as to disseminate information about the disease on regular social media platforms.

Furthermore, providing free HPV screening programs at primary health care centers may enhance screening practices among women.

AUTHOR'S CONTRIBUTION:

Dharini Bhoopathi, Bhavatharini Sukumaran: Interviewed the patients, Methodology, writing original draft and conceptualization.

M. Deepalakshmi, Pramod Kumar Adusumilli: Conceptualization, ethical approvals, guidance, and supervision.

ACKNOWLEDGEMENT:

The authors acknowledge and appreciate the support of patients (especially Pregnant women), Physicians, Nurses, and other staff of OBGY department of NRI General Hospital for cooperating with us. We also thank Department of Pharmacy practice of Chebrolu Hanumaiah Institute of Pharmaceutical Sciences, Guntur.

CONFLICTS OF INTEREST:

The authors declare no conflicts of interest

FUNDING:

No funding was received for the study

6. REFERENCES:

1. Latest world cancer statistics – GLOBOCAN 2012: Estimated Cancer Incidence, Mortality and Prevalence Worldwide in 2012 – IARC [Internet]. [cited 2022 Jan 22]. Available from: <https://www.iarc.who.int/news-events/latest-world-cancer-statistics-globocan-2012-estimated-cancer-incidence-mortality-and-prevalence-worldwide-in-2012/>
2. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA Cancer J Clin.* 2021 May;71(3):209–49.
3. Sreedevi A, Javed R, Dinesh A. Epidemiology of cervical cancer with special focus on India. *Int J Womens Health.* 2015;7:405–14.
4. Sharma A, Kulkarni V, Bhaskaran U, Singha M, Mujtahedi S, Chatrath A, et al. Profile of cervical cancer patients attending Tertiary Care Hospitals of Mangalore, Karnataka: A 4 year retrospective study. *J Nat Sci Biol Med.* 2017 Jun;8(1):125–9.

5. International Agency for Research on Cancer. GLOBOCAN 2012: Estimated cancer incidence, mortality and prevalence worldwide in 2012. Lyon, France: IARC; 2013. Available from: <http://www.globocan.iarc.fr/>. [Last accessed on 2015 Feb 17].
6. Kumar V, Abbas AK, Fausto N, Mitchell RN, editors. Robbins Basic Pathology. 8th ed. Philadelphia: Saunders Elsevier; 2007.
7. Kaku M, Mathew A, Rajan B. Impact of socio-economic factors in delayed reporting and late-stage presentation among patients with cervix cancer in a major cancer hospital in South India. Asian Pac J Cancer Prev APJCP. 2008 Dec;9(4):589–94.
8. Walboomers JM, Jacobs MV, Manos MM, Bosch FX, Kummer JA, Shah KV, et al. Human papillomavirus is a necessary cause of invasive cervical cancer worldwide. J Pathol. 1999 Sep;189(1):12–9.
9. Gadducci A, Barsotti C, Cosio S, Domenici L, Riccardo Genazzani A. Smoking habit, immune suppression, oral contraceptive use, and hormone replacement therapy use and cervical carcinogenesis: a review of the literature. Gynecol Endocrinol Off J Int Soc Gynecol Endocrinol. 2011 Aug;27(8):597–604.
10. Canavan TP, Doshi NR. Cervical cancer. Am Fam Physician. 2000 Mar 1;61(5):1369–76.
11. Aswathy S, Quereshi MA, Kurian B, Leelamoni K. Cervical cancer screening: Current knowledge & practice among women in a rural population of Kerala, India. Indian J Med Res. 2012 Aug;136(2):205–10.
12. Fylan F. Screening for cervical cancer: a review of women's attitudes, knowledge, and behaviour. Br J Gen Pract J R Coll Gen Pract. 1998 Aug;48(433):1509–14.
13. Mosavel M, Simon C, Oakar C, Meyer S. Cervical cancer attitudes and beliefs-a Cape Town community responds on World Cancer Day. J Cancer Educ Off J Am Assoc Cancer Educ. 2009;24(2):114–9.
14. Rajkumar R, Sankaranarayanan R, Esmi A, Jayaraman R, Cherian J, Parkin DM. Leads to cancer control based on cancer patterns in a rural population in South India. Cancer Causes & Control. 2000 Jun;11(5):433–9.
15. Landy R, Pesola F, Castañón A, Sasieni P. Impact of cervical screening on cervical cancer mortality: estimation using stage-specific results from a nested case-control study. Br J Cancer. 2016 Oct 25;115(9):1140–6.
16. Sherris J, Wittet S, Kleine A, Sellors J, Luciani S, Sankaranarayanan R, et al. Evidence-Based, Alternative Cervical Cancer Screening Approaches in Low-Resource Settings. Int Perspect Sex Reprod Health. 2009 Sep;35(03):147–54.

17. Narayana G, Suchitra MJ, Sunanda G, Ramaiah JD, Kumar BP, Veerabhadrappe KV. Knowledge, attitude, and practice toward cervical cancer among women attending Obstetrics and Gynecology Department: A cross-sectional, hospital-based survey in South India. *Indian J Cancer*. 2017 Jun;54(2):481–7.
18. Kumari S, Singh A, Sangal R, Sharma NR. KAP study on cervical cancer and human papillomavirus vaccine acceptability among adolescent girls of Eastern UP: a cross sectional study. *Int J Reprod Contracept Obstet Gynecol*. 2021 May;10(5):2031-2035.
19. Montgomery MP, Dune T, Shetty PK, Shetty AK. Knowledge and acceptability of human papillomavirus vaccination and cervical cancer screening among women in Karnataka, India. *J Cancer Educ*. 2015 Mar;30(1):130-7.
20. Charakorn C, Rattanasiri S, Lertkhachonsuk AA, Thanappapasr D, Chittithaworn S, Wilailak S. Knowledge of Pap smear, HPV and the HPV vaccine and the acceptability of the HPV vaccine by Thai women. *Asia Pac J Clin Oncol*. 2011 Jun;7(2):160-7.