



## A Multicentric Study on Knowledge and Screening of Cervical Cancers in Indian Women

Priya Ganesh Kumar\*, Bharathi Talisetty, Puneet Chandna and Akshay Ganesh Kumar

Department of obstetrics and Gynaecology, Thane, Maharashtra, India

\*Corresponding Author: Priya Ganesh Kumar, Department of obstetrics and Gynaecology, Thane, Maharashtra, India.

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### Abstract

**Objective:** A retrospective analysis of 389 patients for preventive oncology screening for early detection of cervical cancer in women participating in out patient's department conducted in multicenter of districts across the states of Maharashtra, Andhra Pradesh and Tamil Nadu in India.

**Materials and Methods:** Three Hundred and eighty-nine women in the age group of 25- 65 years or older were screened as they happen to be in the highest spectrum of incidence and mortality from cervical cancer and benefit the most from cervical cancer screening. The methods and tools were applied for screening purposes has been as per National and international counselling, advice and direction.

**Results:** About 21 percent of the semi-literate in the group were unaware of the prevention techniques such as vaccination and almost 80 percent of the screening population were the first-time participants and about 19 percent women had undergone some screening at some point in the reproductive life. Post Screening, counselling and awareness health talks, over 93 percent women approved of their knowledge of screening through HPV, about 4 percent about HIV related complications.

**Conclusion:** Cervical cancer continues to be the largest killer of women in developing world and India retains a major position amongst several nationals for its women to be affected with the disease at some point in life with considerable number of cervical cancer cases being reported that happen to place the country at a higher level of burden of the disease. The advantage deployment of all available screening and prevention guidelines, remains and continues to be the most effective tool for cervical cancer awareness, more so in resource limited settings.

**Keywords:** Knowledge; Screening; Cancer

### Introduction

Cervical cancer holds the fourth most prevalent cancer status in women worldwide and happens to be the seventh most prevalent across all cancer types in the world. of an estimated 528,000 new cases in 2012, approximately 85% occurred in less developed countries, of which one fifth were diagnosed in India [1]. There were 266,000 deaths from cervical cancer in 2012, accounting for 7.5% of all female cancer deaths. Approximately 87% of the worldwide mortality for cervical cancer occurs in less developed countries [2].

Screening can detect precursors and pre-malignant early stage disease in cervical cancer and can help prevent squamous cell carcinoma and adenocarcinoma types efficiently. Treatment of related outcomes beforehand and pre-malignant early stage disease can prevent the development of invasive cervical cancer and reduce cervical cancer mortality.

Introductory screening for Cervical cancer began with the development of the Papanicolaou (Pap) test, the knowledge of and

strict adherence to the pap regimen by majority of susceptible population, have significantly decreased, the incidence and mortality of cervical cancer in developed countries. In addition to the Pap test, screening methods now include tests for high-risk strains of HPV Infection ( and it is now well understood that persistence of HPV infection is the most important determinants of progression to cervical cancer [3-7].

According to 2013, 70% of the Indian population lived in the rural area of the country and incidentally highest sex ratio of 1084 females per 1000 males was reported by State of Kerala followed Andhra Pradesh with 993 per 1000 males. Maharashtra has 2929 Public Health Clinicians and Andhra Pradesh has 1644 Public Health Clinicians with 508 and 348 community health centers respectively. A total of only 803 persons from a total of 9,86,284 persons and 1,840 persons from a total of 29,40,779 who attended the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS), were diagnosed with cancers and included Common Cancers including Oral, Cervical and Breast Cancer, all put together [8-10].

Risk for cervical cancer and hence the recommendation for the frequency and/or duration of screening is attributed to factors such as persistence of infection with a high-risk strain of human papillomavirus (HPV), prior abnormal screening results, a history of inadequate screening for cervical cancer, and immunosuppression that can hinder clearance of HPV infection [11]. The age to initiate screening by only pap is above 21 years and is above 30 years for both Pap smear and HPV testing for all the women according to ASCCP – ACOG guidelines 2012 [12-14]. Patients with abnormal screening results may need treatment by Cryo and LEEP. They need more frequent follow up and testing, based on their prior results and treatment, making the screening more eminent in a developing part of the world.

## Materials and Methods

Current study's aim has been to examine and confirm the present status of the knowledge and reflection of women between specific age groups and screen them for the cervical cancer with regards to their knowledge the growing burden of the malady in women while creating awareness and detect precursors of early-stage disease of cervical cancer as treatment of precursors and early-stage disease can prevent the development of invasive cervical cancer

and reduce the overall cervical cancer mortality. Furthermore the study examines the effectiveness of Counseling across primary, secondary and tertiary modes of prevention through screening.

This retrospective analysis consists of 389 individuals who were screened with identification of an asymptomatic disease, harmful condition, or risk factor in mind to qualify for Secondary prevention of early disease when it is asymptomatic and/or when treatment can stop it from progressing through screening test and follow-up diagnosis and recommending treatment for those with the condition of interest employing Counseling Aids, Visual Pictorial Aids and Audio Video Aids for Married between the age group of 25-60 years keeping their socio-economic strata to guide the screening programme as per the International Guidelines of World Health Organization [15]. In accordance with the proceeds of the Andhra Pradesh, Master Mahila Health Check (MMHC) up programme which was launched in October 2016 [16] and now it is going on regularly as screening for non-communicable diseases, a questionnaire to record a candidate's formal consent, gynecological symptoms and other statistics were formally obtained from 389 women, as per the details in the supplementary data and included queries to suit pre-evaluations around the awareness about Female Reproductive system, Gynecological Infectious, Hygiene, vaccination and general reproductive health [17].

A similar questionnaire was prepared to evaluate a post counselling and awareness level disposition to be recorded for effectiveness and information assessment to derive awareness levels and efficacy of the appointed screening methodology.

## Results

A total of 389 individual were screened out of which, 139 and 250 women were screened at Neral, Matheran, and Dhule districts of Maharashtra and 250 in Chitoor and Nagercoil districts of Andhra Pradesh and Tamil Nadu, respectively.

The age groups of women were between 25 and 60 years with all preselected with their marriage status confirmed as espoused wherever applicable (n = 389). A total number of candidates between the age of 10 to 29 yrs. were 96 (24.96%); between age group of 30 to 49 yrs. were 242 (62.92%) and remaining 51 (13.26%) belonged to 50 to 79 yrs. age group. Pre-counselling evaluation further revealed that over 45% (178 Women) were of literacy status

of undergraduate education and amongst the literate group, only 83 women (21.33 percent) were aware of availability of vaccine for the prevention of cervical cancer prevention (Table 1).

Education	NK	No	Yes	Total
Primary( Grade 1 to 5 <sup>th</sup> )	18	11	14	43
Upper primary( Grade 6 <sup>th</sup> to 8 <sup>th</sup> )	15	12	9	36
Secondary( Grade 7 <sup>th</sup> to 10 <sup>th</sup> )	25	9	22	56
Intermediate (Passed Grade 10 <sup>th</sup> examination)	20	5	18	43
Undergraduate	20	10	48	78
Post graduate	4	2	9	15
PhD	0	1	0	1
Illiterate	60	23	29	112
Diploma	1	0	4	5
Total	163	73	153	389

**Table 1:** Distribution of subjects with respect to their literacy status (Educational Qualifications).

Single Table Analysis 83 members in illiterate group were not aware of availability of effective vaccine for cervical cancer.

A detailed questionnaire for pre and post – counseling session was prepared by the committee in consultation with the experience and the practice related in clinical setting across all centers. Initial findings revealed that a total of 94 women (24.16%) were not aware of the concept of CIN (Cervical intraepithelial neoplasia) and their etiology (Table 2).

Are u aware of CIN lesions?	Frequency	Percent
No	94	24.16%
Yes	295	75.84%
Total	389	100.00%

**Table 2:** Total number of responders were to the pre-evaluation questionnaire n= 389.

On further pre-evaluation introspection 99 women (25.45%), rated India on the first position for its cervical cancer incidence in the world while, 62 (15.94%) and a total of 170 (43.70%) rated cervical cancer as the first and second most cancers in women across India (Table 3).

Severity of cervical cancer in India?	Frequency	Percent	Cum. Percent
Fifth rank in world	99	25.45%	25.45%
Second rank	170	43.70%	69.15%
First rank	62	15.94%	85.09%
Not known	58	14.91%	100.00%
Total	389	100.00%	100.00%

**Table 3:** Cervical Cancer Incidence Perception in Women.

Out of Total 389 Subjects, (39) thirty nine reported dysmenorrhea/ low back ache/ abdominal pain, (14) fourteen reported irregular vaginal bleeding, six reported dyspareunia, (5)five with post- menopausal bleeding, one with ulceration/growth in genitalia,324 were symptomless (Table 4).

Symptoms	Number of ladies
Dysmenorrhea/low back ache/abdominal pain	39
Irregular vaginal bleeding	14
Dyspareunia	6
Post-menopausal bleeding	5
Ulceration/growth in genitalia	1
No symptoms	324
Total	389

**Table 4:** Symptoms of ladies during the counselling session.

A significant number of women, 313 (80.46%) reported to never have undertaken cervical cancer screening in their life while 76 women (19.54%) women had undergone cervical screening (Table 5).

Undergone screening for cervical cancer	313	80.46 %
Not undergone any screening for cervical cancer	76	19.54%
Total	389	100 %

**Table 5:** Status of screening.

A Total of 77 women (19.79%) linked cervical cancer incidence to Marriage while 120 (30.85), 71 (18.25%), 75 (19.28%) stated that the incidence of cervical cancer was related to Number of sex-

ual partners, Hereditary Causes and Sanitary and Menstrual Hygiene, respectively (Table 6). Post health talk, counseling session, 366 (93.08%) women reported HPV as ten akin cause of all cause cervical cancer in women while about 16 (4.11%) either related the cause due to HIV or HPV both.

Cervical cancer related to?	Frequency	Percent
Age of marriage	77	19.79%
No. of sexual partners	120	30.85%
Hereditary	71	18.25%
Sanitary pads and menstrual hygiene	75	19.28%
Not known	40	10.28%
Plus 4th option	3	0.77%
3 plus 4th option	1	0.26%
2 +3+ 4 options	2	0.51%
Total	389	100.00%

**Table 6**

With regards to the ideal age for vaccination a 241 (61.95%) confirmed having the awareness of girls to be vaccinated between the age group of 11-55 yrs., 146 (37%) stated their knowledge for

vaccination to be essential between the age group of women between 15-45 yrs (Table 7).

Most ideal age for vaccine?	Frequency	Percent	Cum. Percent
Girls of 11 to 15 yrs	241	61.95%	61.95%
15 – 45 years	146	37.53%	99.49%
Not known	2	0.51%	100.00%
Total	389	100.00%	100.00%

**Table 7**

With regards to the knowledge about HPV testing and Pap test over 99 percent women confirmed their knowledge about screening tests and only about 4 (0.01 percent) of the women reported to be not well conversant with the topic (Table 8).

Across the screening, a Total of 100 patient underwent VIA (Visual Inspection with Acetic Acid) and 18 tested positive cases were referred for biopsy under guidance of colposcopy. Total of 4 cases were confirmed as LSIL and referred for appropriate consultation and treatment or surveillance as per the guidelines.

	Cervical scrape for HPV	Pap test	Blood test	Sonography	Not known	Total
Primary (1 to 5 <sup>th</sup> )	22	19	1	0	1	43
Upper primary (6 <sup>th</sup> to 10 <sup>th</sup> )	14	17	3	2	0	36
SECONDARY (7 <sup>th</sup> to 10 <sup>th</sup> )	24	27	3	2	0	56
Intermediate	31	11	2	0	0	44
Undergraduate	51	24	3	0	0	78
Post graduate	10	4	0	0	0	14
PhD	0	1	0	0	0	1
Illiterate	58	42	8	2	3	112
Diploma	2	3	0	0	0	5
Total	210	148	20	6	4	389

**Table 8:** Education and ideal screening for cc prevention?.

Largely it was found that, the effectiveness of behavioral counseling intervention for improving intermediate or long-term health outcomes was significant and is the awareness towards the screening had improved an appreciable knowledge, commission-

ing a review of the evidence on the effectiveness of screening to reduce risk of infection, promote hyenine amongst sexually active women resulting in, decreased risk for health consequences, morbidity, mortality, or risky behaviors and improve health, amongst the screening approaches for cervical cancer.

## Discussion

Several strategies for screening promote behavioral counseling to be having effective in motivating lifestyle changes. Ladies out of fear factor and inhibition to the word “cancer” have a resistance to get themselves screened and examined. The main purpose of screening is to identify high risk precancerous lesions which are actually symptomless. Once identified and diagnosed, the treatment of CIN Lesion is done with ablative- Cryotherapy, or excisional – LEEP therapy safely. These therapies are OPD based, painless with local anesthesia in case of LEEP. Once the precancerous lesions are treated, the progress to cancer is avoided, thus Cervical Cancer can be prevented. As Per WHO statement, Cervical cancer is the most preventable cancer in women. Once treated the ladies have to be enrolled in five yearly surveillance program till the age of 65 as per screening protocol. Out of fear factor, unnecessary hysterectomies are carried out, thereby increasing morbidity and sometimes mortality in women. Effective counselling helps in confidence building to save uterus by avoiding unnecessary hysterectomies. Counseling patients to stop smoking, eat a prudent diet, drink alcohol moderately, exercise, and engage in safe sexual practices are all important screening tools and in the current study have helped gather evidence that behavior change promotes awareness around the risks of cervical cancer: (i) Empowers women to come forward for screening (ii) Value the risk reposition the risk to the gynecological condition and symptoms, and (iii) Counseling leads to an effective behavior change Thus reducing the cervical cancer incidence.

Over the years, prevention and related clinical practices have evolved and lately most primary, secondary, and tertiary prevention do not ideally distinguish the approach with a significant degree of distinction in approach. Historically, primary prevention has included primarily vaccinations for most infectious disease and counseling for healthy lifestyle behaviors remains an important inclusion across the spectrum of possibilities to prevent cancer [18].

Majority of preventive care strategies in cervical cancer involve immunizations, screening, behavioral counseling (sometimes referred to as lifestyle changes), and chemoprevention.

Though the best methodologies and screening program are designed and implemented with defined certainty they may be subject to errors and hence may not be able to prevent all cases

of cervical cancer, but by far are the best way to pick up any abnormal cells that could later turn into cancer. Debate continues and international groups are continually striving to arrive at a uniform consensus for an acceptance of, or a preference method to screen alongside any extended cervical cancer screening interval that may appear to be more widespread and uniform for utilization [19].

## Conclusion

Screening is the identification of an asymptomatic disease, unhealthy condition, or risk factor. All strategies may be different in their approach based on the primary, secondary or the tertiary screening and may be unique to the setting they encompass, but a common aim of any Cervical Screening Program is to reduce the number of women who develop cervical cancer and reduce the number who die from it. Nevertheless, strategies to educate women about the logic, interpretation and premise behind screening shall only promote and cultivate informed preferences and need support from political and administrative groups to encourage providers to adopt to recommended screening guidelines and to educate women about cervical cancer screening.

## Bibliography

1. Ferlay J., *et al.* “Cancer Incidence and Mortality Worldwide: IARC Cancer Base No”. 11. Lyon: International Agency for Research on Cancer (2013).
2. Ferlay J., *et al.* “Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008”. *International Journal of Cancer* 127 (2010): 2893-2917.
3. Walboomers JM., *et al.* “Human papillomavirus is a necessary cause of invasive cervical cancer worldwide”. *Journal of Pathology* 189 (1999): 12.
4. Nobbenhuis MA., *et al.* “Relation of human papillomavirus status to cervical lesions and consequences for cervical-cancer screening: a prospective study”. *Lancet* 354 (1999): 20.
5. Kjaer SK., *et al.* “Type specific persistence of high risk human papillomavirus (HPV) as indicator of high grade cervical squamous intraepithelial lesions in young women: population based prospective follow up study”. *BMJ* 325 (2002): 572.
6. Wallin KL., *et al.* “Type-specific persistence of human papillomavirus DNA before the development of invasive cervical cancer”. *The New England Journal of Medicine* 341 (1999): 1633.

7. Committee on Practice Bulletins—Gynecology. "Practice Bulletin No. 168: Cervical Cancer Screening and Prevention". *Obstetrics and Gynecology* 128 (2016): e111.
8. Population (2015) C2013.
9. National health Profile. Central Bureau of Health Intelligence, Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India (2018).
10. National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS), Dte. GHS, Ministry of Health and Family Welfare.
11. Klumb EM., *et al.* "Is higher prevalence of cervical intraepithelial neoplasia in women with lupus due to immunosuppression?" *Journal of Clinical Rheumatology* 16 (2010): 153.
12. American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology screening guidelines for the prevention and early detection of cervical cancer.
13. ACOG Practice Bulletin Number 131: Screening for cervical cancer. Committee on Practice Bulletins—Gynecology. *Obstetrics and Gynecology* 120 (2012): 1222-1238.
14. Colposcopy in Practical Gynecology.
15. Saslow D., *et al.* "ACS-ASCCP-ASCP Cervical Cancer Guideline Committee". *CA: A Cancer Journal for Clinicians* 62.3 (2012): 147-172.
16. World Health Organization. WHO guidelines for screening and treatment of precancerous lesions for cervical cancer prevention: supplemental material: GRADE evidence-to-recommendation tables and evidence profiles for each recommendation (2013).
17. Siegel R., *et al.* "Cancer statistics, 2011: the impact of eliminating socioeconomic and racial disparities on premature cancer deaths". *CA: A Cancer Journal for Clinicians* 61 (2011): 212.
18. National Center for Health Statistics. Health, United States, 2010: With Special Feature on Death and Dying. Health, United States, 2010: With Special Feature on Death and Dying. Hyattsville, MD (2011).
19. Bhatla N., *et al.* "Cancer of the cervix uteri". *International Journal of Gynecology and Obstetrics* 143 (2018): 22-36.

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