

Original Research Article

Knowledge, awareness and practice of cervical cancer screening among ever married rural women of Ganjam District, Odisha: a community based cross-sectional study

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ABSTRACT

Background: India accounts for 25% of total deaths from cervical cancer. Screening for cervical cancer reduces mortality by early detection and treatment. So, a study was conducted among rural women of Ganjam district with the objective to know knowledge, attitude and practice of cervical screening among them.

Methods: A community based cross sectional study was conducted from January to February 2019 among ever married women of more than 30 years of age residing in villages of Chhatrapur block of Ganjam district. Sample size was calculated to be 280 by formula $Z^2pq/l2$. Multistage random sampling and PPS method were used to select participants. A semi-structured questionnaire was used to collect data and all data were analysed in SPSS.

Results: Among 280 participants, though 70.7% had heard about cervical cancer, only 32.5% knew that there are tests for screening. Only 13.2% of participants said that Pap smear test was to be taken regularly. However, majority didn't know who should undergo screening test and what age tests should be started. Main source of information for them was health worker (39%). Only 14.6% had any type of cervical screening in their lifetime. The main reason for not going for screening was ignorance (53.9%) followed by thinking tests are not needed unless any symptoms appeared

Conclusions: Proportion of participants with proper knowledge and awareness regarding cervical cancer screening was low which led to poor uptake of screening. So, awareness regarding cervical cancer screening should be increased. Health camps and education programs should be conducted regularly.

Keywords: Cervical cancer, HPV vaccine, Indian women, Pap test, Screening

INTRODUCTION

Women are important part of our society and maternal health is of utmost importance for society. The maternal and reproductive health of women is affected by a spectrum of diseases ranging from infectious diseases to non-communicable ones. Cancer is one of the important causes of mortality among women nowadays. It is a leading cause of death worldwide among women in both high-income countries and middle-income countries.¹

According to Globocan 2018 report, among all cancers in women cervical cancer is 4th most common cancer both by mortality and incidence in India.² Almost 90% of cervical deaths worldwide occur in developing countries with India alone accounting for 25% of total cases.¹ Cervical cancer can affect any woman who is or has been sexually active. According to IHME Reports by 2010, risk of incidence of cervical cancer in South Asia regions is 1 in 53 whereas it is 1 in 116 in US.³ Globally cervical

cancer incidence grew by rate of 0.6% annually from 1980, whereas developing countries it grew by 1.1%.³

There are national programs to control and prevent cancer with objectives of primary prevention, early detection, treatment and rehabilitation.⁴ In 2010 screening for cancer became a part of National Program for prevention and control of cancer, diabetes, cardiovascular disease and stroke (NPCDCS) which includes screening of women for cancer cervix.⁵ Screening for cervical cancer known to reduce mortality by early detection and treatment. The American Cancer Society recommends that women should begin cervical cancer screening at 21 years of age, women aged 21 to 29 years should have pap test every 3 years and after 30 years of age Pap test with HPV test should be taken regularly every 5 years till 65 years of age.⁶ The proportion of women undergoing pap smear testing is very low in India as compared to developed countries.⁷ Basing on this scenario a study was planned to be conducted among ever married women residing in villages of Ganjam District, Odisha with the objective to know the knowledge, attitude and practice of cervical screening for cancer among them.

METHODS

Study design, study population and study period

A community based cross sectional study was conducted from January 2019 to February 2019 in villages of Ganjam district, Odisha. Study subjects comprised of ever married women more than 30 years of age residing in villages of Chhatrapur block of Ganjam district. Ever married women were interviewed as they are or have been sexually active in their life time and sexual activity affects onset of cervical cancer and women more than 30 years of age were considered as their practice of cervical cancer screening was also assessed in this study. Women who were not permanent resident, not willing to participate in study, mentally disabled and severely ill were excluded from study.

Sample size and sampling technique

Sample size was calculated by the formula Z^2pq/l^2 where $Z= 1.96$, p is prevalence, $q= 100-p$ and l are the allowable error. The sample was calculated to be 280 taking

prevalence as 24%, confidence interval 95% and absolute error of 5%.⁸ Multistage random sampling was used to select study participants. First out of 22 blocks of Ganjam district, one block i.e. Chhatrapur was selected by simple random sampling using lottery method. In the next step, 10% of all villages (Chhatrapur has total 46 villages) were selected by simple random method using lottery method for data collection. For determining number of women from each village, probability proportional to size (PPS) method was used. The detailed information is given in Table 1. Ever married women were first enlisted with the help of Anganwadi workers of local area and then desired numbers of women more than 30 years of age were selected from list by simple random method using random table.

Data collection and analysis

A predesigned, pre-tested, semi-structured questionnaire was used to collect data. The questionnaire contained socio-demographic information like age, religion, caste, marital status, age of first marriage, education status, occupation, Socio economic status (SES), parity, menstrual hygiene and questions to assess knowledge, awareness and practice regarding cervical cancer screening among them.

It was translated to local language (Odia) by one investigator and again translated back to English to check its original meaning by another investigator. Modified B.G. Prasad scale (2018) was used to assess the SES.⁹ Use of sanitary napkin and cleaning of private parts with soap and water was taken as good menstrual hygiene.

All data were analysed in SPSS (version 16.0). Descriptive analysis denoted in mean with standard deviation and proportions. IEC approval was taken prior to study and it followed ethical standards for observational study.

RESULTS

The study was conducted among 280 women to the knowledge and perception about cervical cancer screening in 5 villages of a block of Ganjam district, participants Odisha. The distributions of sample and study area were depicted in Table 1.

Table 1: Distribution of sample and study area selected for the study.

Sl No	Village	Total women census 2011)	Required sample size using PPS	Number of participant selected (rounded off)
1	Polasara	161	$280 \times 161 / 2759 = 16.3$	16
2	Raghunathpur	441	$280 \times 441 / 2759 = 44.7$	45
3	Laxmipur	620	$280 \times 620 / 2759 = 62.9$	63
4	Kalipalli	626	$280 \times 626 / 2759 = 63.5$	64
5	Rambhapalli	911	$280 \times 911 / 2759 = 92.4$	92
	Total	2759		280

Table 2: Demographic characteristics of study participants in the study area (n=280).

Demographic profile of participants	Number (%)
Age	
31- 40	141 (50.4)
41-50	92 (32.9)
51-60	33 (11.8)
> 60	14 (5)
Religion	
Hindu	230 (82.1)
Muslim	38 (13.6)
Christian	12 (4.3)
Caste	
General	91 (32.5)
S.E.B.C.	113 (40.4)
SC	57 (20.4)
ST	19 (6.8)
Marital status	
Currently Married	253 (90.4)
Widow	12 (4.3)
Separated/ Divorcee	15 (5.4)
Age of first marriage	
< 20 years	90 (32.1)
20-25 years	135 (48.2)
> 25 years	55 (19.6%)
Education	
Illiterate	124 (44.3)
Primary level	97 (34.6)
Secondary level	31 (11.1)
College and above	28 (10)
Occupation	
Housewife	169 (60.4)
Laborer	51 (18.2)
Self business	28 (10)
Service	19 (6.8)
Student	13 (4.6)
SES	
I	4 (1.4)
II	8 (2.9)
III	28 (10)
IV	145 (51.8)
V	95 (33.9)
Parity	
Nulliparous	23 (8.2)
1	40 (14.3)
2	82 (29.3)
3	101 (36.1)
≥ 4	34 (12.1)
Maintain good menstrual hygiene*	107 (38.2)

* Use of sanitary napkin and cleaning of private parts with soap and water was taken as good menstrual hygiene.

The demographic profile of all participants was given in Table 2. Age of the participants ranged from 30 years to 68 years. The mean age of 38.5 years and most of them

belong to age group 31 to 40 years (50.4%). Most of them were currently married (90.4%), illiterate (44.3%), housewife (60.4%) and belonged to class IV SES (51.8%). majority of them (36.1%) have parity of 3 and

only 38.2% of women were maintaining good menstrual hygiene.

The knowledge and awareness of participants about cervical cancer screening was depicted in Table 3. Though majority (70.7%) heard about cervical cancer, only 32.5% knew that there are tests to screen it. However 43.9% heard about Pap smear test and only 19.3% were aware of availability of Pap testing near their

locality. Only 13.2% of participants told that Pap smear test to be taken regularly and 20.7% told the appropriate age to start test is above 50 years. However majority of participants didn't know who should take the screening test and what age the tests should get started. very few participants (20.4%) had received education or counseling about cervical cancer screening in their lifetime.

Table 3: Knowledge and awareness of participants about cervical cancer screening (N=280).

Variables to assess knowledge and awareness		Number	Percentage
1.Ever heard of cervical cancer	Yes	198	70.7
	No	82	29.3
2.Do you know there are tests to screen cervical cancer/ heard about cancer screening	Yes	91	32.5
	No	189	67.5
3.Ever heard about pap smear test	Yes	123	43.9
	No	157	56.1
4.Aware of availability of pap testing near their locality	Yes	54	19.3
	No	226	80.7
5.Who should get tested for cervical cancer	Only married	157	56.1
	Unmarried	8	2.9
	Any female of appropriate age	46	16.4
	Don't know	69	24.6
6.Should pap smear test to be taken regularly	Yes	37	13.2
	No	108	38.6
	Don't know	135	48.2
7. Appropriate age to start test	< 20 years	4	1.4
	> 20 years	16	5.7
	> 30 years	35	12.5
	> 50 years	58	20.7
	Don't know	167	59.6
8. Once pap test is normal is there any need for more pap smear	Yes	38	13.6
	No	103	36.8
	Don't know	139	49.6
9.Ever received education/counseling about cervical cancer screening	Yes	57	20.4
	No	223	79.6

Table 4: Source of information regarding cervical cancer screening (n=123)

Source	Number	Percentage
Health personnel	38	30.9
Health worker	48	39
Relatives/friends	21	17.1
Media	16	13

Table 4 illustrated the source of information for cervical cancer screening for the participants. Whatever

information known to the participants; the main source of information was health worker (39%) followed by health personnel (30.9%).

The detail about practice regarding cervical cancer screening among study participants was shown in table 5. Among the participants, 41 (14.6%) had any type of screening for cervical cancer in their lifetime. The main reason was being ignorance (53.9%) followed by thinking the tests are not needed unless any symptoms like discharge or pain appeared (36.4%). Fear of the tests also was a cause for not doing them.

Table 5: Practice regarding cervical cancer screening among participants (n=280)

Practice regarding cervical cancer screening	Number	Percentage
Do you ever had a pap test in life time	41	14.6
Reason for not taking the Test*		
1. Don't know what it is all about/ not aware of it	151	53.9
2. pap test not needed unless symptoms appeared	102	36.4
3. Afraid of doing test	98	35
4. Not suggested by anyone	67	23.9
5. It is embarrassing to have a pap test	64	22.8
6. It is only to detect existing cancer	58	20.7
7. Don't know where to go if I want to do this screening	57	20.3
8. partner/husband not want to do this	45	16.1
9. It is very expensive to do test	41	14.6
10. pap test not needed if I have regular periods	37	13.2
11. Heard that it is very painful	29	10.4
12. fear of getting positive result	19	6.8
13. Concerns about what others may think	13	4.6

* Multiple responses

DISCUSSION

Cervical cancer starts with precancerous changes in cervical cells and hence early detection of these changes by cervical screening and timely treatment can prevent development of cervical cancer.¹⁰ According to American college of obstetricians and gynaecologists, cervical cancer screening includes Pap test and HPV test for some women.¹¹ In India under the program NPCDCS (prevention, screening and control of common Non-communicable diseases), cervical cancer screening is done by visual inspection using Acetic acid (VIA) by trained personnel.¹² In 1988 when Papanicolaou's screening method (Pap smear) was introduced in a cervical programme for cervical cancer screening, it drastically decreased the trend of cervical cancer in women in UK.^{13,14} Research showed that about 60% of women with cervical cancer is associated with absent or deficient of screening procedures.¹⁵

The present cross sectional study was done to know the knowledge, awareness and practice of ever married women about cervical cancer screening in villages of Ganjam district, Odisha. In present study even though 70.7% had heard cervical cancer only 32.5% were aware of cervical cancer screening which is very similar to findings by Nelson SB et al, in Tamil Nadu (30.9%), Sambath S et al, in Theni (22%) and Dahiya N et al, in New Delhi (23.3%).¹⁶⁻¹⁸ In contrast, Aswathy S et al, in Kerala and Elamurugan S et al.^{19,20} found more than 70% of their participants knew about cervical cancer screening. In the present study only 19.3% had the knowledge of Pap test availability near their locality which was also observed by Kumar H et al, in Mangalore.²¹ Among those who had some knowledge of cervical cancer screening in Present study, the main source of information was health workers (39%) followed

by other health personnel. Elamurugan S et al, found that main source was health personnel whereas Kumar H et al, found it was mass media.^{20,21}

Among 280 participants, 56.1% viewed that only married women should undergo cervical cancer screening, 13.2% said that women should take pap test regularly. However, 48.2% and 59.6% of study subjects didn't know the interval of Pap test and the appropriate age to start the screening tests for cervical cancer respectively. Only 5.7% told that PAP test should be started once a woman attends 20 years of age. Similarly, 36.8% expressed that once PAP test is normal there is no need for more pap smear tests. Aswathy S et al, reported that 89.7% of their participants didn't know when the tests should be done and 7.4% said it should be taken in more than 30 years women.¹⁹ Elamurugan S et al, found that 52.6% participants have no idea about starting of the tests and 26.3% told the test should be taken once in a year.²⁰ But Dahiya N et al, stated only 14% study subjects viewed that the test should be taken once in a year and 8.7% only stated it should be started below 21 years of age.¹⁸ Kumar H et al, found that 20.5% told that only married women should take the tests.²¹ Nelson SB et al, mentioned more than half of participants (53.2%) opined the tests should be taken once in a year whereas 87% of them stated women more than 35 years of age should get tested for cervical cancer.¹⁶ In present study, only 20.4% ever received counselling about cervical screening which is very similar to findings by Kumar H et al.²¹

In the present study, only 14.6% ever had a screening test for cervical cancer in their life time. This finding is very similar to that by Nelson SB et al, Sambath S et al, and Elamurugan S et al.^{16,17,20} However, Aswathy S et al, and Kumar H et al, found 6.9% and 7.2% of participants had screening test in life time.^{19,21} Dahiya N et al, reported

slightly more (26%) proportion of women had test.¹⁸ In this study the main reason for not having screening test was ignorance about it followed by the notion that tests are not needed unless symptoms appeared. Afraid of doing test, embarrassment about undergoing tests, refusal of partners, thinking that it is only required for existing cancer were also some reasons for it. Lack of knowledge and thinking that tests not needed unless symptoms appeared as a reason are also reported by other studies.¹⁷⁻²² Sambath S et al, found fear of procedure was one of the reason for it whereas Aswathy S et al, reported financial reason as one of the reason.^{17,19} Nelson SB et al, Aswathy S et al, Siddharthar J et al, and Thovarayi S et al, found education was significantly associated with good knowledge of cervical cancer screening and education had a great impact on taking the tests.^{16,19,22,23}

CONCLUSION

The present study reflects that low proportion of study participants had proper knowledge and awareness regarding cervical cancer screening. This led to low up take of this screening among them as only 14.6% had taken screening test in their life time. The main barriers were ignorance, thinking tests are not required unless symptoms developed, fear and embarrassment and thinking that the test is to detect only existing cancer were the main reasons that prevented them from going for a screening test. So, awareness regarding cervical cancer and its screening should be increased in the study area. Effective education, proper awareness and teaching can remove misconceptions about the cervical screening among them. The female health workers in the locality are the first contact of the rural women and can influence them to a great extent. They should be encouraged to educate and make women aware of this screening for cervical cancer which if detected early can be treated thereby reducing the morbidity and mortality associated with the disease. Health camps and education programs should be conducted regularly in the study area to increase knowledge and awareness about cervical cancer screening and hence increase practice of cervical screening.

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REFERENCES

1. Global burden of cancer in women. American cancer society. Available at: <https://www.cancer.org/dam>research>.
2. Bray F, Ferlay J, Soerjomataram I, Siegel R L, Torre L A, Jemal A. Global Cancer statistics 2018: Globocan estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *Ca Cancer J Clin.* 2018;68:394-424.
3. Institute for health metrics and Evaluation. The challenge ahead: Progress & setbacks in Breast and cervical cancer. Seattle, WA. IHME, 2011. Available at: <https://www.healthdata.org>policy-report>.
4. Schemes and Programmes: National Cancer Control Programme. Available at: www.archive.india.gov.in/sectors/health_family/index.php?id=11.
5. National programme for prevention and control of cancer, diabetes, cardiovascular disease and stroke. Available at: www.nrhmhp.gov.in/sites/default/files/NCD_guidelines.pdf.
6. Guidelines for Pap smear. American Society for clinical pathology. Available at: https://www.cancer.org>cervical_cancer.
7. Swan J, Breen N, Coates RJ, Rimer BK, Lee NC. Progress in cancer screening practices in the United States. Results from the 2000 national health interview survey. *Cancer.* 2003;97:1528-40.
8. Hussain MA, Pati S, Swain S, Prusty M, Kadam S, Nayak S. Pattern and trends of cancer in Odisha: A Retrospective study. *Asian Pacific J Cancer Preven.* 2012;13(12):6333-36.
9. Pandey VK, Aggarwal P, Kakkar R. Modified BG Prasad's Socio-economic Classification-2018: The need of an update in the present scenario. *Indian J Community Heal.* 30(1):82-4.
10. American Cancer Society. Screening for cervical cancer. Available at: https://www.cancer.org>cervical_cancer.
11. How is cervical cancer screening done? Frequently asked questions, Cervical cancer screening. The American College of Obstetricians and Gynecologists, Women's health care physicians, 2017. Available at: <https://m.acog.org/cervical-cancer-screening>.
12. Operational guidelines, Prevention, screening and control of common Non-communicable diseases. National health Mission, Government of India, 2013. Available at: www.nicpr.res.in?guidelines_for_population_level_screening_of_common_NCD.
13. History of cervical cancer & role of the human Papilloma virus, 1960-2000. Available at: <https://www.histmodbiomed.org>witsem>vol38>.
14. Peto J, Gilham C, Fletcher O, Matthews FE. The cervical cancer epidemic that screening has prevented in the UK. *The Lancet.* 2004;364(9430):249-56.
15. Sawaya GF, Grimes DA. New technologies in cervical cytology screening, a word of caution. *Obstetrics Gynaecol.* 1999;94:307-10.

16. Nelson SB, Viswanathan N, Jenifer NA, Priyanka B. A cross-sectional study on cervical cancer and its prevention among women of age group 25-50 years in a rural area of South Tamil Nadu, India. *Int J Community Med Pub Heal.* 2018;5:2536-41.
17. Sambath S, Chandrasekaran M. Knowledge, awareness and prevention of cervical cancer among women attending a rural based tertiary care centre, Theni, South India. *Int J Reprod Contracept Obstet Gynecol.* 2018;7:608-11.
18. Dahiya N, Aggarwal K, Singh MC, Garg S, Kumar R. Knowledge, attitude, and practice regarding the screening of cervical cancer among women in New Delhi, India. *Tzu Chi Med J.* Available at: <http://www.tcmjmed.com/preprintarticle.asp?id=250235>.
19. Aswathy S, Quereshi M A, Kurian B, Leelamoni K. Cervical cancer screening: Current knowledge & practice among women in a rural population of Kerala, India. *Indian J Med Res.* 2012;136(2):205-10.
20. Elamurugan S, Rajendran P, Thangamani S. Cervical cancer screening: Awareness, attitude and practice of Indian women. *Trop J Med Res.* 2016;19:42-6.
21. Kumar H, Tanya S. A study on knowledge and screening for cervical cancer among women in Mangalore city. *Ann Med Health Sci Res.* 2014;4(5):751.
22. Siddharthar J, Rajkumar B, Deivasigamani. Knowledge, Awareness and Prevention of Cervical Cancer among Women Attending a Tertiary Care Hospital in Puducherry, India. *J Clin Diag Res.* 2014;8(6):OC01-OC03.
23. Thovarayi S, Noronha J A, Nayak S. Knowledge of cervical screening among rural Indian women: a cross sectional study. *IOSR.* 2014;3(3):51-5.

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