Content available at: https://www.ipinnovative.com/open-access-journals

IP Journal of Diagnostic Pathology and Oncology

Journal homepage: www.ipinnovative.com

Original Research Article

Cervical cancer screening and prevention; knowledge, awarness, attitude and practice among eastern Indian women

Monalisa Dash[1,*], Jugajyoti Pathi[2], Amita Giri[1], Anupam Brahma[1]

[1]*Dept. of Pathology, ICARE Medical College and Hospital, Kolkata, West Bengal, India*
[2]*Dept. of Oral and Maxillofacial Surgeon, JASK Dental Clinic, Bhubaneswar, Odisha, India*

ARTICLE INFO

Article history:
Received 05-08-2020
Accepted 13-08-2020
Available online 03-09-2020

Keywords:
Cervical cancer
Knowledge
Practice
Screening

ABSTRACT

Introduction: Cervical malignancy is the most found cause of deaths among women or female globally. It turn out to be a fatal disease once it reaches the invasive stages but is very much preventable if detected in its early stages. Cervical cancer screening using Papanicolaou (Pap) test avoids the progress of cervical malignancy by identifying pre-cancerous lesions.
Method: A cross sectional study/research was done in a semi-urban township of eastern India.
Materials: two thirty six women aged between 30 years to 60 years.
Results: While comparing this study with the other studies we found lacking of awareness on cervical malignancies and practice towards it. The less knowledge towards the awareness and practice was mostly due to low socioeconomic status and low educational level. In views of risk factors or causative agents, there are 2 (two) main things we detected that is unhygienic condition or maintenance of the vaginal area and increasing age. Related to sign and symptoms majority of them aware almost all the sign and symptoms asked in the questionnaire paper. Those people were aware that regular pap smear that is Papanicolaou smear would screen cervical cancer and it is a preventable disease.
Conclusions: Females in this part of India were ill-informed about risk factors, signs and symptoms, and screening test of this specific malignancy. Detailed information on cervical cancer, its primary detection in pre-cancerous stage and subsequent counselling about treatment and follow-up is needed.

© 2020 Published by Innovative Publication. This is an open access article under the CC BY-NC license (https://creativecommons.org/licenses/by-nc/4.0/)

1. Introduction

Cervical cancer is one of the most common international malignancy in women and a serious public health problem. The main burden of cervical cancer actually is in the developing country, as it takes away young mothers causing considerable emotional and economic upset in the family.[1] In the world , the annual incidence is approximately around five lakhs women, and nearly 274000 of them are already dead by getting affected in the disease process.[1] Cancer cervix is the most common cancer or malignancy among Indian population(female) and approximately one fifth to one sixth cases of cancer cervix world wide occur in India.[2,3] The most common symptom of cervical cancer is abnormal vaginal bleeding. In India, 23.3% of all cancer deaths are due to cervical cancer.[4] The primary underlying cause of carcinoma cervix is human papilloma virus also known as HPV, which is one of the sexually transmitted diseases.[5] HPV infection leads to pre-cancerous changes in the cervical epithelium called as cervical intra-epithelial neoplasia (CIN), which has the potential to turn into cancer or malignancy if left untreated.[6] It is important to find out the willingness of women to utilize screening services and to comply with the follow up treatment protocols. Global evidence demonstrates that the key to reducing cervical cancer cancerous lesions.[7] Population-based screening program utilizes exfoliative cervical cytology,[8] the papanicolaou (Pap) smear decreases the cervical cancer morbidity and mortality in developed countries.[9,10] Population-based screening with Pap smear

* *Corresponding author*.
E-mail address: monalisha89@gmail.com (M. Dash).

https://doi.org/10.18231/j.jdpo.2020.054
2581-3714/© 2020 Innovative Publication, All rights reserved.

is an important secondary preventive measure for cervical cancer that leads to a high-cure rate among cervical cancer patients. Pap smear has been responsible for a 90% decrease in the number of deaths due to cervical cancers in the United States. [11]

2. Materials and Methods

A community based cross sectional study was held from January to May 2017 among inhabitants of a semi urban township in eastern India. Those female aged between 30 years to 60 years. Total two thirty six participants were randomly selected. They were informed about the nature of this study with full confidentiality in their own local language. The questionnaires were created based on risk factors, causes or etiologic factor, signs and symptoms, diagnosis, also prevention of the malignancy. The question forms were distributed at the public gatherings like market places, temples, parks, and residential apartments. This questionnaire consisted few questions about cervical cancer with additional questions like age, educational level, sexual exposure and employment status for demographic recordings. Each of the question had responses like "yes" and "no".

2.1. Statistical analysis

The data was first entered in MS-Excel and then it was filtered and cleaned. The filtered data was then entered in SPSS v. 20 and the data analysis was done using the same. The confidence interval was determined at 95% C.I. (p= 0.05).

1. Chi- square test was used to see whether distributions of categoricalvariablesdiffer from each another.
2. The formula for the chi-square statistic used in the chi square test is:

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where O is the observed variable and E is the expected variable

1. To find the co-relation between the effects of variables on eachother. A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other.
2. A correlation coefficient of -1 means that for every positive increase in one variable, there is a negative decrease of a fixed proportion in the other.
3. Zero means that for every increase, there isn't a positive or negative increase. The two just aren't related.
4. It is calculated by the formula:

One of the most commonly used formulas in stats is Pearson's correlation coefficient formula. If you're taking a basic stats class, this is the one you'll probably use:

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

Where X and y are the two different variables for which the correlation testing is carried out. In the table 3, the stage or the grading of carcinoma is directly proportional to the number of nodes identified and total number of positive nodes. Thus, when there is more number of positive nodes and there is more number of nodes identified, this increases in the stage of cancer.

3. Results

3.1. Physiognomies of the study inhabitants (Table 1)

A total of two thirty six females were included in the study. Majority of females that is ninety one females (n-91) being in the age group of 41- 50 years, which comprises 38.55 percentage. 35.17 percentage (n=83) study population were illiterate. 66.95 percentage were sexually active. 63.30 percentage (n=100; out of 158 females those of who are sexually active) were using contraceptive methods. The proportion of females who were aware of cancer cervix increased with the literacy level, and this association was statistically significant and proved. The awareness about the cervical cancer was more in the age group of 30-40 years among the females. Those who use contraception were more knowledgeable about cervical cancer than those who do not use contraception or sexually not active.

3.2. Knowledge of the risk factors of the cancer (Table 2)

The females who were aware or unaware about the cancer or malignancy were asked about the causative factor of the particular deadly cancer. Maximum of women that is 25.84 percentage (n- 61) mentioned unhygienic state of the vaginal area as an important risk or causative factor. Less or least number that is only six number of female found human papilloma virus infection of the lower genital tract that includes vagina as well as cervix is the risk factor for the malignancy. Similarly, those women using contraception were more knowledgeable than other category.

3.3. Response about sign and symptoms (Table 3)

Out of two thirty six females all, who were aware or not aware about the malignancy were asked about the signs and symptoms of the particular cancer or malignancy. The results are described subsequently. Fifty two females (that is 22.03 percentage) were aware of the bleeding after intercourse is a sign of the particular malignancy. After that fifty one females that is 21.61 percentage were aware

of local signs and symptoms like itching, redness, and fowl smelling, also the same percentage of the females were aware of post-menopausal bleeding as a symptom of the malignancy. In the declining order pelvic pain (n=46) and vaginal discharge (n=36) were the sign and symptoms known by the females respectively.

3.4. Awareness of cervical malignancy and screening (Table 4)

The proportion of the females who were aware of the cancer cervix increased with the literacy status level of them, and this association was statistically significant. The awareness about the cervical cancer was more in the age group of 30-40 years among the females. Those who use contraception were more knowledgeable about cervical cancer than those who do not use contraception or sexually not active.

Table 1: Demographic characteristics

1. **Age (in years)**	**Number**	**Percentage**
• 30-40	87	36.88
• 41-50	91	38.55
• 51-60	58	24.57
	Total= 236 Mean -78.66	Total= 100.00
2. Sexually active		
• Yes	158	66.95
• No	78	33.05
	Total= 236	Total=100.00 P value- 0.001
3. Contraception use, if applicable		
• Do not use contraception	58	36.70
• Use contraception	100	63.30
	Total= 158 : sexually active	Total=100.00
4. Educational level		
• Illiterate	83	35.17
• Higher school	59	25.00
• Graduation	62	26.28
• Post graduation	32	13.55
	Total= 236	Total=100.00

Table 2: Responses of risk factors

Risk factors	**Number**	**Percentage**
1. Multiparity	07	02.97
2. Unhygienic condition	61	25.84
3. Increasing age	59	25.04
4. Having multiple sexual partner	23	09.73
5. Past history of sexually transmitted disease	52	22.03
6. Consumption of alcohol and tobacco products	15	06.35
7. HPV infection	06	02.54
8. Not visiting gynecologist regularly	13	05.50
	Total= 236	Total=100.00

Chi square value- 0.229 P value- 0.008

Table 3: Responses about sign and symptoms:

Signs and symptoms	**Number**	**Percentage**
Local itching, redness and foul smell	51	21.61
Bleeding after intercourse	52	22.03
Vaginal white discharge	36	
Pelvic pain	46	
Post menopausal bleeding	51	21.62
	Total=236	Total=100.00

Chi square value-0.091 P value-0.046

Table 4: Practice: screening and prevention of cervical cancer

Visiting a gynecologist regularly-clinical examination	23	09.74
Pap smear examination regularly	46	19.49
Maintaining hygiene	116	49.15
Know that cervical cancer is preventable	45	19.06
Idea about hpv and cervical cancer correlation	06	02.56
	Total- 236	Total=100.00

Chi square value-0.220 P value- 0.046

4. Discussion

Cervical cancer is a preventable disease if diagnosed early. The important factor for early detection is screening properly. The achievement of any screening programme will depends upon proper and active services, dedication of the health professionals, easy accessibility, little price, and above all the awareness and attitude of the female at the receiving end.[12] The mean age of the participants in our study was 78.66 years. This was not exactly comparable to another study from Saudi Arabia[13] in which the mean age was 42 years. A study from Puducherry,[14] India also reported a mean age of 40 years among the study samples. In a study from the country Nepal,[15] the mean age of the study sample or participants was 29.9 years, which is not concordance with our study. The current study inhabitants had very poor knowledge about established risk factors of the carcinoma of cervix which is consistent with the findings in a study was done in India.[14,15] In our current study on the etiology of the cancer cervix awareness was low, hence this indicated that these women had low awareness on human papilloma virus infection and cervix cancer correlation. Similar result also found in Seng, et al study. Smoking and tobacco consumption is one more explanation for cervical cancer; smokers have an excess risk of cervical cancer. within the present study, these

women are still lack of awareness on this aspect. Again the study is in concordance with Seng et al.[16] The cervix cancer is predicted to decreased by 2020, and there are many factors donating to its decline. The advance within the living standard and awareness among women through print and audio-visual media has resulted in a very decline within the incidence of cervical cancer. Regular cervical cytological examination by all sexually active women can prevent the occurrence of carcinoma cervix.[7] additionally, awareness for female genital hygiene and visiting hospital at pre-clinical stage are the contributory factors for the control of carcinoma cervix in urban settings. Things of cancer prevalence is alarming in rural population where the majorities of ladies are illiterate and are ignorant about the factors that contribute to the event of cervical cancer. they're socio-economically weak and have poor hygienic conditions and plenty of other risk factors like early age marriage and multiple pregnancy. additionally, medical facilities, advice and awareness programmes are almost non-existent.[17,18] Sexually transmitted disease is really proven to be one among the causes.[19] During this study, it implies that ladies in Malaysia may have some extent of awareness on this aspect. Quite ninety percentage school going adolescent girls ages between thirteen to twenty years old usually have better awareness on HIV and AIDS, but low awareness on human papilloma virus infection. People are alert on sexually transmitted disease as an key element for cancer cervix, but not all sexually transmitted diseases are known by them.[20] Early sexual exposure is thought to have correlation with cancer cervix. Associated factors with cervical cancer includes a strong history of multiple sexual partners and sexual exposure before seventeen years of age. Women with none exposure to sexual activity have low risk for the cancer.[21] Early sexual exposure is recognised to be a risk factor upto 44.3 percentage.[22] Unfortunately, in our current study women's awareness on this aspect is yet to be strengthened. Prophylactic oral contraceptive pills are the contributing factor for the cervix cancer. Women taking oral contraceptive pills with a minimum of five years are subjected to a two fold risks of developing the cancer.[23] Studies showed the information that have demonstrated the data about cancer cervix appears to be a crucial factor to see women's willingness to participate in cervical cancer screening programme.[24–26] our present study showed that the training of papanicoulao smear screening was very less Our study showed that the training of smear screening was very less but the boldness of our participants toward screening was quite good. Hence, health programs to boost the notice of ladies can help during a good way to cut back the frequency of cervical cancer.

5. Conclusion

There is also need for educational involvements and mindfulness programmes not only to augment about the human papilloma virus immunization but also screening for the cervical cancer to control or seize the progression of the disease. Primary prevention is best method to adopt for the developing countries like India. For a mass human papilloma virus vaccination in India affordability, openness, education about the same and convenience is needed. For numerous issues exact to the region, a gainful second-generation vaccine is the essential of the period. Hence, routine cytological screening should be continued to be used to detect and treat women who are infected before vaccination or with other human papilloma virus types not covered by the vaccine.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Cervical Cancer, Human Papillomavirus (HPV), and HPV Vaccines. WHO. World Health Organization. 2017;Available from: http://www.who.int/reproductivehealth/publications/cancers/RHR_08_14/en.
2. Murthy NS, Mathew A. Screening for cancer of uterine cervix and approaches adopted in India. *Indian J Cancer*. 1999;36:154–62.
3. Ananth R. Downstaging of cervical cancer. *J Indian Med Assoc*. 2000;98:41–4.
4. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM, et al. Estimates of worldwide burden of cancer in 2008: GLOBOCAN. *Int J Cancer*. 2008;127:2893–917.
5. Salati SA, Kadi A, A. Anal cancer - a review. *Int J Health Sci (Qassim)*. 2012;6:206–30.
6. Ortega-Cervantes L, Aguilar-Lemarroy A, Rojas-García AE. Human Papilloma Virus Genotypes in Women from Nayarit, Mexico with Squamous Intraepithelial Lesions and Cervical Cancer. *Int J Health Sci*. 2016;10(3):327–38.
7. Miller AB. Cervical Cancer Screening Programmes: Managerial Guidelines. Geneva: World Health Organization; 1992.
8. Sharma D, Sandhu SV, Bansal H. Distinct Perturbations of Oral Squamous Cell Carcinoma Patients : A Quantitative Cytomorphometric Analysis. *Int J Health Sci*. 2015;9(3):281–91.
9. Peto J, Gilham C, Fletcher O, Matthews FE. The cervical cancer epidemic that screening has prevented in the UK. *Lancet*. 2004;364(9430):249–56.
10. Saha A, Chaudhury AN, Bhowmik P, Chatterjee R. Awareness of cervical cancer among female students of premier colleges in Kolkata India. *Asian Pac J Cancer Prev*. 2010;11:1085–90.
11. Eddy DM. Screening for cervical cancer. *Ann Intern Med*. 1990;113:214–26.
12. Elamurugan S, Rajendran P, Thangamani S. Cervical cancer screening: Awareness, attitude, and practice of Indian women. *Trop J Med Res*. 2016;19(1):42–6.
13. Sait KH. Attitudes, knowledge, and practices in relation to cervical cancer and its screening among women in Saudi Arabia. *Saudi Med J*. 2009;30:1208–12.
14. Siddharthar J. Knowledge, Awareness and Prevention of Cervical Cancer among Women Attending a Tertiary Care Hospital in Puducherry, India. *J Clin Diagn Res*. 2014;8:1–3.
15. Shrestha J, Saha R, Tripathi N. Knowledge, Attitude and Practice regarding Cervical Cancer Screening Amongst Women visiting Tertiary Centre in Kathmandu, Nepal. *Nepal J Med Sci*. 2013;2(2):85–90.

16. Seng LM, Rosman AN, Khan A, Haris NM, Mustapha NAS, Husaini NSM, et al. Awareness of cervical cancer among women in Malaysia. *Int J Health Sci (Qassim)*. 2018;12(4):42–8.
17. Takiar R, Nadayil D, Nandakumar A. Projections of number of cancer cases in India (2010-2020) by cancer groups. *Asian Pac J Cancer Prev*. 2010;11:1045–9.
18. Badwe RA, Dikshit R, Laversanne M, Bray F. Cancer Incidence Trends in India. *Jpn J Clin Oncol*. 2014;44(5):401–7.
19. Samkange-Zeeb FN, Spallek L, Zeeb H. Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: a systematic review of published literature. *BMC Public Health*. 2011;11(1):727.
20. Lee JK, So KA, Piyathilake CJ, Kim MK. Mild Obesity, Physical Activity, Calorie Intake, and the Risks of Cervical Intraepithelial Neoplasia and Cervical Cancer. *PLoS ONE*. 2013;8(6):e66555.
21. Moore AR, Driver N. Knowledge of Cervical Cancer Risk Factors Among Educated Women in Lomé, Togo. *SAGE Open*. 2014;4:1–8.
22. Gierisch JM, Coeytaux RR, Urrutia RP, Havrilesky LJ, Moorman PG, Lowery WJ, et al. Oral Contraceptive Use and Risk of Breast, Cervical, Colorectal, and Endometrial Cancers: A Systematic Review. *Cancer Epidemiol Biomarkers Prev* . 2013;22(11):1931–43.
23. Raza SA, Franceschi S, Pallardy S, Malik FR, Avan BI, Zafar A, et al. Human papillomavirus infection in women with and without cervical cancer in Karachi, Pakistan. *Br J Cancer*. 2010;102(11):1657–60.
24. Jia Y, Li S, Yang R, Zhou H, Xiang Q, Hu T, et al. Knowledge about cervical cancer and barriers of screening program among women in Wufeng County, a high-incidence region of cervical cancer in China. *PLoS One*. 2013;8:67005.
25. Fylan F. Screening for cervical cancer: A review of women's attitudes, knowledge, and behaviour. *Br J Gen Pract*. 1998;48:1509–14.
26. Ansink AC, Tolhurst R, Haque R, Saha S, Datta S, van den Broek NR, et al. Cervical cancer in Bangladesh: community perceptions of cervical cancer and cervical cancer screening. *Trans R Soc Trop Med Hyg* . 2008;102(5):499–505.

Author biography

Monalisa Dash Assistant Professor

Jugajyoti Pathi Consultant

Amita Giri HOD

Anupam Brahma Post Graduate Trainee

Cite this article: Dash M, Pathi J, Giri A, Brahma A. Cervical cancer screening and prevention; knowledge, awarness, attitude and practice among eastern Indian women. *IP J Diagn Pathol Oncol* 2020;5(3):277-281.