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ACCEPTANCE AND OUTCOMES OF CERVICAL CANCER SCREENING AMONG WOMEN OF NORTH INDIA

Community Medicine

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ABSTRACT

Cervical cancer is one of the preventable cancer, still it is fourth leading cause of death of women worldwide and second leading cause of death of women in India. Screening for cervical cancer using high performance test and vaccination against HPV(Human papilloma virus) are recommended by WHO as global strategy to eliminate cervical cancer.The very first indigenous vaccine CERVAVAC is also launched in India in year 2023,however data from nationally representative survey(NFHS-5) showed very low awareness and acceptance of cervical cancer screening among women.Present study is a descriptive cross sectional study done in camp based settings (25-30 women in each camps) from November 2021 to november 2022 at peripheral health centers of Lucknow district of state Uttar Pradesh of North India. Aim of the study was to assess the acceptance and outcomes of cervical cancer screening among ASHA(accredited social health activist) from health centers and women visiting peripheral health centers. Result showed that total 43% women accepted screening(41.4% ASHA, 31.4% women visiting health center). On bivariate analysis education level($p=0.003$), employment status ($p<0.001$)and knowledge of cervical cancer($p=0.02$) found to be predictors of cervical cancer screening.Liquid based cytology test was carried to screen those who were willing and it was found that as per Bethesda system of classification among those who opted for screening(N=110), 4(3.1%) were having ASCUS (Atypical squamous cells of undetermined significance), 2(1.5%) had LSIL (low squamous intraepithelial lesions), 4(3.1%) reported to have HSIL (High squamous intraepithelial lesion), 9(7.7%) had non neoplastic inflammation, 93(84.6%) were negative for any neoplastic or non- neoplastic lesion. All Positive screened participants were referred to higher centre for further management.

KEYWORDS

INTRODUCTION

Cervical cancer is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women, with an estimated 604,000 new cases and 342,000 deaths worldwide in 2020. The highest incidence of cervical cancers is recorded from eastern Africa (40.1%) and the lowest incidence are recorded from west Asia (4.1%). South East Asia has incidence rate of 17.8%[1]. As of GLOBOCAN -2020 (Global cancer observatory data), cervical cancer is the second most common cancer among women in India with an estimated incidence of 123,907 (18.3%) and mortality of 11.4%[2].

Human Papilloma virus (HPV) Infection with a high-risk or oncogenic HPV type is the main contributor to precancerous and cancerous cervical lesions. Infection with HPV16 and 18 is the main cause of cervical cancer in the majority of cases. High-risk varieties, particularly HPV16, are discovered to be very common in human populations.However due to long latency period(around 10 years) prevention of cervical cancer is possible through screening for lesions[3].

In May 2018, director-general of the world health organization (WHO), called for action towards achieving the global elimination of cervical cancer. In January 2019, executive board of WHO, consisting of several member states, requested the director-general to develop, in consultation with member states and other relevant stakeholders, a draft global strategy to accelerate cervical cancer elimination, with clear goals and targets for the period 2020-2030.

This global strategy to eliminate cervical cancer had vision of eliminating cervical cancer as public health problem for which a threshold of 4 per 100 000 women-years has to be achieved. Another 90-70-90 targets has been set up by WHO that must be met by 2030, first to vaccinate 90% of girls with HPV vaccine by age 15 years. Second, to screen 70% of women with a high-performance test by 35 years of age and again by 45 years of age. And the last to treat 90% of women with precancer or invasive lesions of cervix[4]

In India, despite the availability of effective low-cost screening options, limited access to screening and treatment services, diagnosis at a later stage, and low investment in health care infrastructure all contribute to the high number of deaths. According to NFHS-5(National Family Health Survey,2019-2020), a nationally representative study carried out at the district level, only 1.9% of women (ages 30-49) in Uttar Pradesh had ever had cervical cancer screening. In the urban area, it was 2.2%, but only 1.7% in the rural area. The low rate of screening may be due to rural women's lack of knowledge of cervical cancer and its preventive measures[5]. Aim of the present study was to assess the acceptance and outcomes of cervical cancer screening among women attending peripheral health centres of Lucknow.

METHODOLOGY

Present study is a descriptive cross-sectional study, carried out at Rural PHC and CHC of Lucknow District of Uttar Pradesh, India from November 2021 to November 2022. Sample size keeping power of the study 80%, and absolute error of 5% using formula for 2 different proportions came out to be around 290(145 ASHA & 145 women visiting health centers). Sampling technique was purposive (Type of non -probability random sampling).

The study comprised 2 groups of participants ASHA and Rural women between 30-65 years who visited the chosen PHC and CHC. Critically ill and intellectually challenged women, as well as women who have been diagnosed with cervical cancer or who have had a history of the disease were excluded from the study. The study also excluded pregnant women and women who had undergone a complete hysterectomy.

Data Collection

Data was collected in camp based settings among small group of women (25-30), using pre-designed and pre-tested semi-structured questionnaire by face-to-face interview. Questionnaire contained domains like (Socio-demographic characteristic of participants, Reproductive and Obstetric history, Personal history, awareness of cervical cancer and screening, risk factors, symptoms and means of prevention of cervical cancer and cervical cancer screening. Content

validity of tool was checked by the experts from concerned areas. Around 30 minutes of awareness session was given to participants using lecture and presentation of information, education and communication(IEC) material on risk factors of cervical cancer, its sign and symptoms and importance of screening at earliest. Participants were also educated about HPV vaccination. Participants were motivated to get screen for cervical cancer. Those who agreed to get screened were offered Liquid based cytology(LBC, monolayer slide preparation technology which is more sensitive and specific than conventional pap smear) for screening of premalignant lesions of cervix. LBC vial containing preservatives used to preserve and fixate cell taken via endocervical brush from transformation zone of cervix). The preservative fluid-containing sample is then processed in laboratory of King george's medical university,Uttar Pradesh. Reporting of the test was based on Bethesda system of classification.

Data Analysis

Statistical package for social sciences, version 26(SPSS-26, IBM, Chicago, USA) have been used to analyse data by applying appropriate statistical test (Chi square test/Fisher exact test ,where p value less than 0.05 considered to be statistically significant.)Bi variate analysis is done to see the predictors of cervical cancer screening among participants.

Ethical Consideration

Owing to ethical consideration, permission was obtained from the Institutional Ethical Committee of the King George's Medical University UP, Lucknow before commencing of the study.

RESULT

Most of the participants were Hindu 285(98.3%) and only 5(1.7%) were muslims.

Majority of the participants 172(59.3%) were educated upto middle-high school ,18(6.3%) were illiterate,24(8.2%) were educated upto primary school, and 76(26.2%) were intermediate and above. More than half of the participants 157(54.1%) were in services/job(including ASHA) and rest 111(38.2%) were home makers , agricultural worker 12 (4%) and 10 (3.5%) were engaged in other works(skilled workers). Based on modified B.G. prasad scale(2019) around half of the participants were from lower middle class (47.6%), 27.6% from middle class and only 6% belonged to upper class.(Table 1)

Table 1 Distribution Of Sociodemographic Characteristics Of Study Participants(n=290)

Variables	Participants(n=290)	
	n	(%)
Age in Years (Mean ± SD)	37.3 ± 8.7	
Category of Participants		
ASHA	145	50%
Rural women	145	50%
Religion		
Hindu	285	98.3%
Muslim	5	1.7%
Education level		
Illiterate	18	6.3%
Up to primary school	24	8.2%
Middle-High school	172	59.3%
Intermediate and above	76	26.2%
Occupation of participants		
Job/service	157	54.1%
Skilled manual	10	3.5%
Agriculture	12	4.2%
Homemaker	111	38.2%
Socio-economic status of participants		
Upper class	19	6.5%
Upper middle class	25	8.6%
Middle class	80	27.6%
Lower middle class	138	47.6%
Lower class	28	9.7%
Data are presented in Mean ± SD and Number (%). Women who had attended menopause.		

Most of the women 235(81.1%) were not taking OCP and rest 55 (19%) had history of OCP intake. Majority of them were non-smokers, only few 6(2 %) had history of smoking. 132(45.5%) were using commercially available pads during menstruation, and 110(38%) were using cloths as sanitary napkins. Most of them 125(42.1%) were changing napkins at interval of 12 hour while only 13(3.4%) changed at interval of 6 hour. Majority of them 239(82.4%) gave no history of any foul-smelling vaginal discharge while 51(17.6%) had history of foul-smelling vaginal discharge (Table 2).

Table 2 Distribution Of Participants Based On Personal History (n=290)

Variables	Participants (n=290)	
	n	(%)
Oral contraceptive pills (OCP) intake		
No	235	81%
Yes	55	19%
Duration of OCP intake		
Less than 5 years	247	85.1%
5 to 10 years	37	12.7%
More than 10 years	6	2.2%
Smoker		
Yes	12	4.1%
Former	8	2.8%
No	270	93.1%
Use of sanitary napkins during menstruation		
Cloths	110	38%
Pads	132	45.5%
NA*	48	16.5%
Frequency of changing sanitary napkins		
6 hourly	13	3.4%
8 hourly	60	22.1%
12 hourly	125	42.1%
24 hourly	44	15.2%
NA*	48	17.2%
Foul smelling vaginal discharge		
Present	239	82.4%
Absent	51	17.6%
Data are presented in Number (%). NA* Women who had attended menopause.		

Out of 290 participants who attended the camp only 110(43%) accepted screening for cervical cancer while 180 rejected. Acceptance among ASHA was higher 60(41.4) than rural women 50(31.4%). (Figure 1)

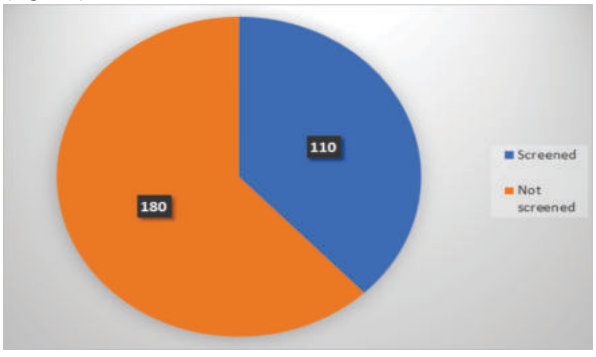

Figure 1 Distribution Of Acceptance Of Cervical Cancer Screening (n=290)

Education, employment status and knowledge of cervical cancer found to be predictors of acceptance of cervical cancer screening. Among women who were illiterate, 6.25(%) opted for screening while 93.75(%) rejected. Women who were educated till high school 51.1(%) accepted while 48.9(%) rejected, and among graduates women 61.3(%) accepted while only 38.7(%) rejected screening. Difference found to be statistically significant. (p value=0.003) (Figure 2)

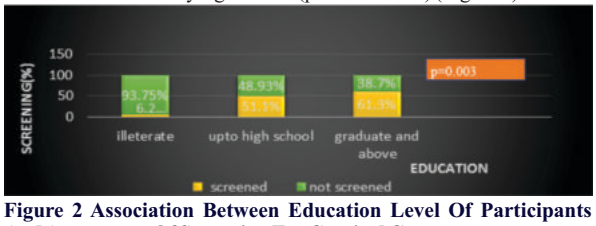

Figure 2 Association Between Education Level Of Participants And Acceptance Of Screening For Cervical Cancer

Similarly, employment status of participants also found to be predictor of acceptance of cervical cancer screening. 76.6(%) of those participants who were employed accepted screening while only 36(%) of those who were unemployed accepted screening for cervical cancer. Findings found to statistically highly significant (p value<0.001). (Figure 3)

Figure 3 Association Between employment status participants of and acceptance of screening for cervical cancer

Third statistically significant predictor was knowledge of cervical cancer. Among participants who were aware of cervical cancer, 56.8(%) accepted screening while who were not aware of cervical cancer, only 35(%) accepted screening and the difference in both the groups was statistically significant(p=0.02). (Figure 4)

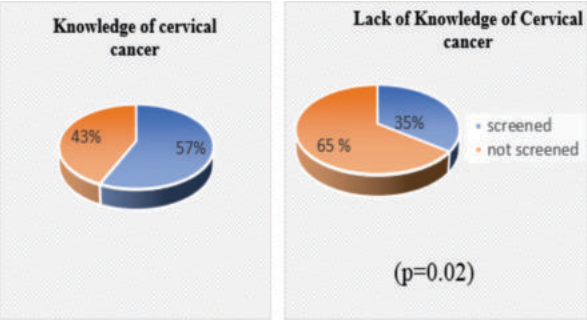

Figure 4 Association Between Knowledge Of Participants Towards Cervical Cancer And Acceptance Of Screening For Cervical Cancer

Reporting of screening was done on Bethesda system of classification. As per Bethesda system of classification among those who opted for screening(N=110), 4(3.1%) were having ASCUS (Atypical squamous cells of undetermined significance), 2(1.5%) had LSIL (low squamous intraepithelial lesions), 4(3.1%) reported to have HSIL (High squamous intraepithelial lesion), 9(7.7%) had non neoplastic inflammation. 93(84.6%) were negative for any neoplastic or non-neoplastic lesion. All Positive screened participants were referred to higher centre for further management. (Figure 5).

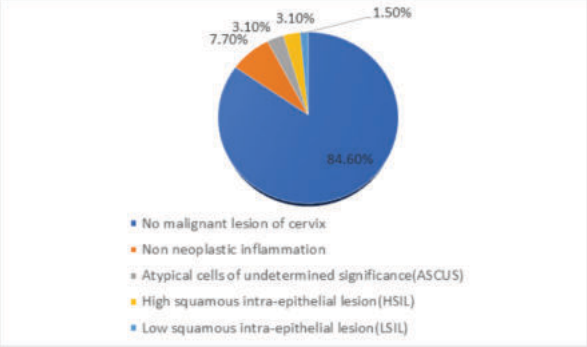

Figure 5 Outcomes Of Liquid Based Cytological Screening Based On Bethesda System

DISCUSSION

Present study was descriptive cross-sectional study which explored the sociodemographic details of participants attending camp, their acceptance of cervical cancer screening and association between their knowledge of cervical cancer, education and employment status and uptake of cervical cancer screening.Participants who were screened positive, followed up for further treatment at higher centre.

In this study it was observed that screening for cervical cancer accepted by 110(43%) of 290 women attending the camp this finding was low in comparison to a study done by Mishra et al who dduring a span of 4 years (May 2013 to March 2017), a total of 135 camps were organized under the auspice of Era's Lucknow Medical College and Hospital (Lucknow, India). Only 4,269 (31.2%) out of 13,500 women who were motivated and counselled attended the camp and 2,369 (55.1%) of them underwent a Pap smear examination[6]. This difference could be due to large difference in sample size of two studies.

However, screening rate in our study was higher compared to the study conducted in Vellore, the southern part of Tamil Nadu in the year 2019 in which it was 9.6% among the women attended the cervical cancer screening camp after the village health education intervention was applied[7].

Another study done by Mohan et al in a district of Kerala using camp - approach, found that after the intervention of the health education, screening rate for cervical cancer was increased to 31.1% from 6.2%[8] Prevalence of High squamous intra-epithelial lesion (HSIL) was higher in our study (3.1%) compared to another study in which the prevalence of precancerous lesions of cervix consisted of low-grade squamous intraepithelial lesion (LSIL) in 2.2%, high-grade squamous intraepithelial lesion (HSIL) in 0.5% and Carcinoma-in-situ in 0.2%[9]. Prevalence of ASCUS and LSIL was 1.5% while most of the participants were negative for any precancerous lesion (84.6%).

Knowledge of cervical cancer found to be associated with increased uptake of cervical cancer screening(p=0.02), this finding was consistent with finding of (Ijezie and johnson,Nigera)[10]. Srivastava et al conducted a study in Rohtak and Delhi, India also suggested that educational programs about cervical cancer screening, and tailored behaviour change communication strategies to address women's beliefs about screening tests should be undertaken in low resource settings to escalate the uptake of cervical cancer screening for early prevention and timely diagnosis of cervical cancer[11].

Education (p=0.003) and employment status(p<0.001) of respondents were other predictors of increased cervical cancer uptake, the result was similar to what Changkun and Bishwajit found after analysing the secondary data from India national family health survey(NFHS- 4)[12]

CONCLUSION

In our study we found that after motivating the women for cervical cancer screening, less than half of the women 110(43%) accepted the screening for cervical cancer. Screening for cancer was offered free to all the participants, yet most of the women showed no interest in going for routine screening. Barriers in acceptance of screening observed in study were lack of taking health related decisions independently, ignorance towards fatal diseases like cancer in absence of symptoms. Women who accepted the screening were more educated, employed and independent, which points towards the need to address root causes of poor health seeking behaviour. Women need to prioritize their health specially from rural sector. However present study can not be generalise due to some limitations as non-probability random sampling techniques and small sampe size.

REFERENCES

1. Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: A Cancer Journal for Clinicians, 71(3), 209–249. https://doi.org/10.3322/caac.21660
2. WHO. (2020). Cervix uteri Source: Globocan 2020. Globocan, 419, 10. https://gco.iarc.fr/today/data/factsheets/cancers/23-Cervix-uteri-fact-sheet.pdf
3. Cohen, P. A., Jhingran, A., Oaknin, A., & Denny, L. (2019). Cervical cancer. Lancet, 393(10167), 169–182. https://doi.org/10.1016/S0140-6736(18)32470-X
4. World Health Organization. (2021). Global strategy to accelerate the elimination of cervical cancer as a public health problem and its associated goals and targets for the period 2020 – 2030 [Internet]. https://www.who.int/publications/i/item/ 97892 40014107. United Nations General Assembly, 2 (pp. 1–3).
5. (2019). National Family Health survey, household, 20(May), 1–1.
6. Misra, J. S., Srivastava, A. N., & Gupta, H. P. (2018). Results of Cervical Cancer Screening in the Rural Population of Lucknow West, India, through a Camp Approach. Acta cytologica, 62(4), 273–278. https://doi.org/10.1159/000489078
7. Jeyapaul, S., Oommen, A. M., Cherian, A. G., Marcus, T. A., Malini, T., Prasad, J. H., & George, K. Retrieved February 1, 2021 https://www.indianjcancer.com/preprintarticle.asp?id=299719#ref15. (2021). Feasibility, uptake and real-life challenges of a rural cervical and breast cancer screening program in Vellore, Tamil Nadu, South India. Indian Journal of Cancer, 58(3), 417–424. https://doi.org/10.4103/ijc.IJC_271_19
8. Mohan, Lakshmi, Karthika, M. A community-based cervical cancer screening program in Alappuzha district of Kerala using camp approach. Journal of Family Medicine and Primary Care 11(3):p 1152-1157, March 2022. | DOI: 10.4103/jfmpc.jfmpc_1260_21
9. Bhatt, S., Isaac, R., Finkel, M., Evans, J., Grant, L., Paul, B., & Weller, D. (2018,

December). Mobile technology and cancer screening: Lessons from rural India. Journal of Global Health, 8(2), 020421. https://doi.org/10.7189/jogh.08.020421
10. Ijezie, A. E., & Johnson, O. E. (2019, September–October). Knowledge of cervical cancer and the uptake of the Papanicolaou smear test among public secondary school teachers in Akwa Ibom State, Nigeria. Nigerian Medical Journal, 60(5), 245–251. https://doi.org/10.4103/nmj.NMJ_120_19. Epub November 26, 2019. PubMed: 31844353, PubMed Central: PMC6900900
11. Srivastava, S., Kurian, K., Garg, P. R., Rehman, A., Garg, R., Rathi, S. K., & Mehra, S. (2022, August 1). Prevalence and predictors of cervical cancer screening among reproductive age group women: Evidence from cross-sectional study in Rohtak and Delhi. Asian Pacific Journal of Cancer Prevention: APJCP, 23(8), 2771–2777. https://doi.org/10.31557/APJCP.2022.23.8.2771, PubMed: 36037133, PubMed Central: PMC9741889
12. Changkun, Z., Bishwajit, G., Ji, L., & Tang, S. (2022). Sociodemographic correlates of cervix, breast and oral cancer screening among Indian women. PLOS ONE, 17(5), e0265881. https://doi.org/10.1371/journal.pone.0265881