

A Study on Cervical Cancer Screening Using Pap Smear And Its Clinical Outcomes

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Abstract

Introduction: Cancer Cervix Is The Fourth Most Common Cancer In The World And The Second Most Common In India. The Timely Diagnosis And Treatment Allows Significant Reduction In The Morbidity And The Mortality Rate.

Aim : The Aim Of This Study Is To Evaluate And Detect The Precancerous Lesions By Using Pap Smear As A Screening Method

Methods: This Is A Retrospectiv Study Conducted In 100 Women Attending Gynae Opd Of A Clinal Set Up, Chennai, Tamil Nadu Between January 2021 To May 2021. A Total Of 100 Women Were Included In This Study Who Were Over 21 Years Who Were Sexually Active. A Clinical Examination , A Per Speculum Examination And A Per Vaginal Examination Were Performed And A History Taken For All The Women.A Pap Smear Was Used To Screen Cervical Cancer.

Results: 92 Women Had Normal Cytology And 9 Women Had Abnormal Cytology

Conclusion: Cervical Cancer Is The Most Common Cancer For Which Screening Is Being Done. If Pap Smear Is Done Every 3 Years As Per The Guidelinesmortality Rate Can Be Reduced. Every Woman Should Undergo Pap Smear Atleast Twice In Ones Life Time And Atleast Once Before The Age Of 45 Years, Timely Screening With Pap Smear, Prevention With Hpv Vaccination Allows Prevention From Invasive Cervical Cancer.

Keywords: Cervical Cancer, Pap Smear, Hsil, Lsil, Nilm

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I. Introduction

Cancer cervix is one of the main and leading health problem in women causing increase in the mortality and morbidity world wide. It is the second most common cancers in the world and also among the commonest cause of deaths in developing countries such as india. In low socio economic countries and developing countries accounts to 85% of cervical cancer and contributes to 15% of all female cancers. Various the situation in developing countries it is different, it accounts for only 3.5% of new cases and a risk of only 1% cumulatively.

Especially in developing countries like india , which contributes to more than 80% of all the cervical cases. It is seen that mainly because of lack of awareness, national screening programs , lack of awareness and resources for vaccination and difficulty in running cytology based screening programs. More than one-fifth of all cervical cancer deaths occur in india.

Cervical cancer is one cancer that is preventable disease as it has a long pre invasive stage. With early screening and treatment ,cancer cervix can be detected and treated. Early cervical epithelial changes can be identified by a pap smear test, which is the primary screening modality for detection of precancerous and cancerous lesions such as the early stage of invasive cervical cancer.

In developed countries, there is widespread screening programs which has in return caused significant reduction in the mortality rate due to cervical cancers.

There is a high sensitivity rate of almost 75% in detecting high grade squamous intraepithelial lesion with the help of pap smear ,which in return increases the sensitivity rate for early detection of precancerous lesions when pap smear testing is combined with HPV DNA testing.

In developing countries, there is a need to spread awareness about the cervical cancer screening programs, which has to be done by educating the women regarding the symptoms of cancer, motivate them to visit hospitals for cancer screening, not just the women but also the family members should be counseled about the importance of HPV vaccination and need for cancer screening.

Pap smear positive women need adequate treatment and regular follow up. Therefore ,we have to strengthen our health care services and health care system to include screening at primary and tertiary health centers. Include pap smear screening routinely in all preventive health check ups and master health check ups.

The main aim and objective of the current study was to evaluate women of 21 years and above who were sexually active for precancerous lesions with the pap smear screening modality and to correlate the clinical significance.

II. Methods:

This study included 100 women attending gynecology OPD of a Clinical set up in Chennai, Tamil Nadu ,India between January 2021 to may 2021

Inclusion criteria

- Married women between 21 years to 65 years.
- Women who came for medical/preventive health check up

Exclusion criteria

- Women below 21 years .
- Women with no sexual exposure
- Women above 65 years.
- Women who has undergone total hysterectomy.

Procedure

A detailed history was taken with a predetermined Performa that included the chief complaints , past, personal and family history, the findings of general, systemic examination, the findings of per speculum and vaginal examinations.

A written well explained consent was taken from all women be the procedure. Patients were placed in the lithotomy position and a sterile bivalve speculum was used to insert in the vagina. Proper visualization of the cervix and vagina was obtained. A sample was taken from endocervix using a cryobrush and the brush is removed and kept into a vial with a preservative, which preserves them for weeks and protects them from damage during transport to the lab. The slide , with the cells in a single layer , was prepared in the lab by the pathologist and not by the gynecologist or nurse. Evaluation was done using the bathesda system 2014. The system broadly divides lesions into the following,

- Negative for intraepithelial lesion or malignancy(NILM)
- Epithelial cell abnormalities such as the squamous cell abnormalities, atypical squamous cell(ASC), Atypical squamous cells of undermined significance (asc-us), low grade squamous intraepithelial lesion(LSIL), High grade squamous epithelial lesion(HSIL), Squamous cell carcinoma, glandular cell abnormalities, adenocarcinoma in situ.
- Non neoplastic findings such as cellular variations, reactive cellular changes, organisms like trichomonas vaginalis, fungal organisms, cellular changes with herpes simplex virus, cytomegalovirus etc.
- Endometrial cells in woman more than 45 years
- Other malignant neoplasms.

Women with abnormal pap smear results including ASCUS , LSIL and HSIL were sent for colposcopic examination. Women who had abnormal colposcopic findings , underwent a colposcopic guided biopsy. Appropriate treatment was provided according to the stage and severity of the disease after the biopsy reporting.

III. Results

Symptoms of women attending gynecological health check ups

Symptoms	n=100
Asymptomatic	63
White discharge per vaginum	12
Pain in abdomen	8
Post coital bleeding	0
Irregular cycles	10
Postmenopausal bleeding	1
Something coming out of vagina	2
Frequency of micturation	4

Demographic profile of patients

	Number (n)
Age group	21-30 19

	31-40	56
	41-65	25
Parity	nullipara	8
	primipara	27
	multipara	65
Marital status	yes	100
	no	0
Education	illiterate	5
	10 th pass	0
	12 th pass	7
	Graduate and above	88
Contraceptive use	none	44
	Barrier	22
	Coitus interruptus	14
	iucd	4
	Tubal ligation	8
	others	8
Smoking or tobacco use	No	98
	Yes	2

Per speculum findings and Pap report

Findings	N=100
Healthy looking cervix	72
White discharge per vaginum	14
Hypertrophied cervix	6
Cervical erosion	4
Ectropion of cervix	2
Bleed on touch cervix	1
Uv prolapse/cystocele	2
Pap smear report	
Negative for malignancy	91
inflammation	4
ASCUS	3
LSIL	2
HSIL	0

IV. Result

In this study, most women had healthy cervix, white discharge was the major complaint and finding that we noticed, 6 patients had hypertrophied cervix ,out of which 5 were multipara and 1 was nullipara. Cervical erosion was another finding noticed which were all among multipara women. 1 patient had bleed on touch and 2 had uv prolapse. 1 patient had 2nd degree uv prolapse with cystocle and rectocele and the other had 3rd degree uv prolapse. All these 3 patients were multigravida and above 45 years of age. Most common symptom in women were white discharge, irregular cycles and pain in abdomen. White vaginal discharge was found in 12% of patients, irregular cycles in 8% of patients and pain in abdomen in 10% patients. Other symptoms seen were something coming out of vagina, post coital bleeding, frequency of micturition and post menopausal bleeding. 63% patients were seen to be asymptomatic. There were two women with LSIL and both were from 51-60 years age group and were multipara with 3 children. This indicates risk factor for cervical carcinoma. Most women in this study were hindu , Most women belonged to urban communities versus rural area because our set up has a health check package in which we do cervical cancer screening for all women .

Cases with chronic cervicitis and cervical bleeding on touch had epithelial abnormalities.

The epithelial abnormalities ASCUS,LSIL and HSIL were found in 5% patients, 3% patients had ASCUS and 2% patients LSIL. 4% patients had inflammatory changes.

Pap smear findings were found in patients with symptoms of white discharge, post coital bleeding, followed by patients with abdominal pain. No HSIL was found for patients with post coital bleeding and postmenopausal bleeding.

V. Discussion

Cervical cancer is the most common cancer for which there is national screening programs in the developed countries, or on the other hand for which screening is done. Cervical cancer is preceded by a premalignant stage which is quite long and takes about 10-15 years to proceed to a malignant stage.

It is well known fact that the cervical smear cytology can detect a precancerous stage, which will be helpful to reduce the mortality and morbidity related to this cancer.

There are multiple risk factors leading to chronic infection which in turn can lead to precancerous stage such as the immunodeficiency, smoking, tobacco intake, presence of sexually transmitted disease, multiple sexual partners, early start of sexual life, long span of intake of oral contraceptive pills, high risk HPV such as the HPV 16,18,58,45,31 and 33.

If universal guidelines are made and followed mortality due to cervical cancer can be reduced. By doing pap smear once in 3 years and routine HPV Vaccination can reduce the mortality rate by 85%. In the present study, most of the patients got their pap smear test done for the first time. Most commonly cancer cervix occurs between 45-55 years of age and its pre-invasive lesions occur 5 – 10 years prior. Hence it is essential to start screening before the age of 45 years. It is therefore advisable that at least 2 screening tests should be done in a woman's lifetime and at least 1 screening test before the age of 35 years. The awareness among the community about the HPV vaccination and pap smear testing is extremely low in the developing, low socio-economic countries, which has to be brought in routine practice. Patients from rural communities have to be tested in primary health centers at least once in their lifetimes. Patients with abnormal per speculum findings have to undergo further screening, via, vili and colposcopy examination in the same setting, as the compliance of such patients might be low due to long travels and decreased awareness. Likely, treatment and further screening can be planned for such patients. Pap smear is cost effective, non-invasive, painless procedure, easily available to the population, can be done during a gynecological visit.

VI. Conclusion

Pap smear testing is a very easy procedure, painless, non-invasive, simple, economical and safe modality for testing and detecting precancerous cervical intraepithelial lesions. There should be an established screening program for cancer cervix to routinely follow which will decline the treatment burden, morbidity and mortality.

Every woman above the age of 30 years should undergo routine cervical cancer screening. The pap smear test is the gold standard test for cancer cervix screening. HPV test when combined with Pap smear test has a higher sensitivity rate in detected cancer cervix. The population should be educated about HPV vaccination, pap smear and HPV testing, including the goal and the frequency of the testing. A widespread national program has to be developed which needs to be educational with a media spread. Most women who attended our clinic for health check-ups were not aware of the cancer screening program which made this their first test. Even though ours is an urban set-up with limited patients sign up for medical health check-ups and hence very limited cancer screening tests were done in our study. But our study has proved that with an early screening program, there can be an early detection of the cancer cervix, which in turn can prevent and treat the disease. Thus, there is a need to spread cancer screening programs to help decline the mortality and morbidity rates.

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