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Barriers To Uptake Of Pap Smear Test For Cervical Cancer Screening In Semi-Urban District Of Andhra Pradesh-One Year Study

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Abstract: *Cervical cancer is the second most common cancer affecting Indian women and it is also the second most common cause for cancer deaths. The Papanicolaou smear test is currently the most widely used approach for detecting precancerous and cancerous lesions of cervix for which sensitization and motivation of women was required. Cancer of cervix is readily preventable, and can be diagnosed at the pre-invasive stage with adequate and repetitive cytological screening with Pap smear examination. Our district has large number of rural and tribal community, reaching, counseling and screening them with Pap smear is very difficult. An intense public health campaign to be conducted by Government on a regular and recurring basis.* ***Objective:*** *Retrospective study of cervical smear tests, aimed to analyze limitations in collection of Pap smears and barriers faced by medical staff and patients in our institute.* ***Materials and Methods****: Retrospective study conducted in the Department of Obstetrics and Gynecology at Rajiv Gandhi institute of medical sciences, Srikakulam, Andhra Pradesh from January 2017 to December 2017.Out of 8124 gynecology outpatient attended during this period, detailed clinical data and 280 Pap smears collected by conventional method were studied. All the Pap smears were reported as per the 2001 Bethesda system.* ***Results****: A total of 280 Pap smears examined and incidence of HSIL is more and we had one case of Adenocarcinoma diagnosed on Pap smear .****Conclusion:*** *Carcinoma cervix is 100 % curable when detected in pre-invasive state. Pap test has been effective in reducing the incidence of cervical cancer by 80% and mortality by 70%. Pap smear is a simple, safe, quick and effective test and widely accepted screening method for early detection of premalignant and malignant lesions of cervix. An intense public health campaign regarding importance of screening methods should be conducted to reach interior tribal and rural population.*

Keywords: *Pap, HSIL, Carcinoma cervix, pre-malignant lesions, Adenocarcinoma*

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I. Introduction

Cervix is one of the most common site for infection and malignant transformation. Cancer of the cervix is the second most common cancer in Indian women and second most common cause for death as per National Institute of Cancer Prevention and Research (NICPR), statistics. It occurs in the transformation zone as cervical intraepithelial lesion and progresses through Carcinoma in situ to Invasive carcinoma over years. Cervical Cancer cases as well as mortality are increasing rapidly among Indian women, primarily because of low awareness and late detection. India accounts for the third highest number of cancer cases among women after China and the US, growing annually at 4.5-5%, new data shows. Every year in India, 1,22,844 women are diagnosed with cervical cancer and 67,477 die from the disease. India also has the highest age standardized incidence of cervical cancer in South Asia at 22, compared to 19.2 in Bangladesh, 13 in Sri Lanka, and 2.8 in Iran.[(6)].The high mortality rate from cervical cancer globally (52%) could be reduced by effective screening and treatment programs. In 2010, Indian government launched National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Disease and Stroke (NPCDCS) where the common risk factors are addressed in an integrated manner. The present program emphasizes risk reduction and promotes opportunistic screening or screening through camps in women above 30 years at different levels in rural areas and in urban slums. Pap smear test is highly sensitive, specific method and currently the most widely used approach for detecting precancerous lesions and thereby preventing cervical cancer. The Pap smear is a simple test to collect a small sample of cells from the cervix which helps to diagnose precancerous and cancerous conditions of the cervix. It also aids in diagnosing infections and inflammation of the lower reproductive tract which if left untreated may progress to premalignant lesions. As per the International recommendations, the age to initiate screening is 21

years. In developing countries, limited access to effective screening means that the disease is often not identified until it is further advanced and symptoms develop. As per WHO guidelines for screening and prevention of precancerous lesions for cervical cancer prevention, 2013 women who are *30 years* and above should undergo a Pap test, if it comes normal rescreen every 3 -5years until the age of 65 years and if it shows ASCUS or higher abnormal morphology go for colposcopy and biopsy [(1).] The Pap test yields optimum results if scheduled between 10 to 20 days from the first day of menstrual period. The woman should not be menstruating at the time of test. The national program NPCDCS has a plan of implementation of Pap smear collection at the primary, secondary, and tertiary levels where the screening is opportunistic. But, there are resource limitations to establishing cervical cancer screening program as a priority program all over the country. Uptake of Pap smear test in our district is very low. The main reasons are lack of awareness, low educational levels, low socio-economic state, multiparity, home deliveries and prolonged labor. Tribal population consists of 6% of our district population, they have their own language and difficult to motivate them for Pap test and other screening methods.

II. Materials And Methods

This is a retrospective study conducted in the Department of Obstetrics and Gynecology at Rajiv Gandhi Institute Of Medical Sciences, Srikakulam, Andhra Pradesh from January 2017 to December 2017.Out of 8,124 gynecology outpatients (new and old) attended at OPD room no-7 during this period, a total of 280 women consented for taking Pap smear were analyzed (Table-3). Pap smears were collected from women aged between 19 to 80 years, with chief complaints of leucorrhea, abnormal uterine bleeding, dysfunctional uterine bleeding, post coital bleeding, post menopausal bleeding and mass per vagina. All women were counseled thoroughly and removed their fear and after obtaining informed consent they were prepared for smear taking procedure after taking detailed history regarding number of children, obstetric history, educational status and socio-economical status. Pap smears were made with conventional method according to standard medical literature using disposable Pap smear kit which contains Ayres spatula, speculum, gloves etc. Samples obtained over labeled glass slides which were fixed within 3o seconds in 95% ethyl alcohol in Coplin jar and sent to Department of Pathology for cytological examination. Our pathologist examined the slides which are stained with Papanicolaou stain and reported the results according to Bethesda classification system (2001).All the women with abnormal results were advised for biopsy, treatment, and follow-up and referred to cancer centre for radiotherapy and chemotherapy.

III. Result

Analyzed age group range from 18 years to 80 years, out of which maximum number of patients were in the age group of 31 to 50 years age (Table no-1).White discharge (leucorrhea) was the commonest complaint (38.9%) followed by mass per vagina (19.28%) and abnormal uterine bleeding (9-64%) (Table no-2).Out 280 cases were studied 4.28% (12) cases were inadequate, 45.71 %(128) cases were inflammatory, 29.64 %(83) cases were NILM and 11.07 %(31) cases reported as having epithelial cell abnormality. Out of the 31 cases with epithelial cell abnormality, 3 cases were ASCUS, 6 cases were LSIL, 20 cases were HSIL and 1 case was invasive squamous cell carcinoma and 1 case was Adenocarcinoma(Table no -5). The age range of patients with epithelial cell abnormality was 40 to 60 years (Table no-6).

Table no 1: Age wise Pap smear collection

S.No	Age	No of cases	Percentage (%)
1.	18-30	69	24.13
2.	31-40	84	30.0
3.	41-50	74	26.42
4.	51-60	29	10.35
5.	61-70	20	7.14
6.	71-80	4	1.42
Grand total		280	

Table no 2: Clinical presentation of the patient

S.No	Chief complaint	No. of cases	Percentage
1.	White discharge	109	38.9
2.	Abnormal uterine bleeding	27	9.64
3.	Mass per vagina	54	19.28
4.	Pain abdomen	24	8.57
5.	?Ca .cervix	7	2.5
6.	Post menopausal bleeding	15	5.35
7.	Post coital bleeding	6	2.14
8.	Fibroid uterus	9	3.21
9.	Ovarian cyst	10	3.57
10.	Irregular cycles	13	4.64
11.	Amenorrhea	6	2.14

Table no 3: Gynecology OP and Number of Pap smears collected-Month wise

2017	New OP	Old OP	TOTAL OP	No of Pap smears collected	percentage
January	228	425	653	08	1.22
Feb	367	398	765	13	1.69
Mar	261	585	846	22	2.60
April	279	361	640	12	1.87
May	319	358	677	11	1.62
June	287	359	646	18	2.78
July	282	392	674	12	1.78
August	302	360	662	15	2.26
September	308	402	710	36	5.07
October	318	272	590	40	6.77
November	288	317	605	51	8.42
December	268	388	656	42	6.40
Total			8124	280	

Out of 8124 women attended gynecology OP during above period, only 280 (3.45%) patients consented for Pap smear.

Table no 4: Education status of the women

Education level	No. of patients	Percentage
Illiterate	104	37.14
1^{st} to 5^{TH} Class	113	40.35
6^{th} -10^{TH} Class	46	16.42
10+2	12	4.28
Graduate	5	1.78

Educational status of the women was very poor ,illiterate women were 37.14% and up to 5^{th} class were 40.35%.

Table no 5: Cytology report (2001 Bethesda system)

Cytology finding	No of cases	Percentage
Inadequate	12	4.28
NILM	83	29.64
Organisms(Tricho, Candida, Bacterial)	25	8.9
Inflammatory	128	45.71
LSIL	06	2.14
HSIL	20	7.14
ASCUS	3	1.07
SCC	1	0.35
ADENOCARCINOMA	1	0.35

Table no 6: Age wise distribution of epithelial cell abnormalities

Age	ASCUS	LSIL	HSIL	SCC	ADENOCARCINOMA
18-30			1		
31-40	1	2	2		
41-50	1	1	4	1	1
51-60		2	9		
61-70	1	1	4		

In present study, epithelial cell abnormalities were found in 11.07 %(31) smears. Prevalence of ASCUS was 9.67% (3 cases), LSIL was 19.35 % (6 cases), and HSIL was 64.51 % (20 cases). Invasive cancer was seen in 6.45 % (2) cases.

IV. Discussion

In developed countries, timely screening programs are in place which enables women to get screened, making most pre-cancerous lesions identifiable at stages when they can easily be treated. Early treatment prevents up to 80% of cervical cancers in these countries. In developing countries, limited access to effective screening means that the disease is often not identified until it is further advanced and symptoms develop. In India incidence rates of cancer of the cervix is very high especially in rural areas. Introduction of conventional Pap screening services reduces cervical cancer rates by 60%to 90% .Therefore the Pap test is designated as the "single best cancer screening procedure". There are various screening test for cervical cancer like Pap smear, liquid Pap cytology, automated cervical screening techniques, visual inspection of cervix after Lugol's Iodine and acetic acid application, speculoscopy, cervicography. Out of all these, exfoliative cytology has been regarded as the gold standard for cervical screening program. Cervical cancer is on the declining trend in India, yet it continues to be a major health problem for Indian women.

Our district has population of 27 lakh, of which 6% comprises of tribal population .Tribal women have their own language, low socio-economic state, most of them are illiterates, mutliparous, prefer home deliveries

which results in prolonged labor and later with prolapsed uterus. Counseling and screening them with Pap smear is very difficult task faced by medical staff.

In present study no one had knowledge about the Pap smear test and its uses.

The average age of the women in our study was appropriate considering the fact that the common age to develop pre cancerous lesions and cervical cancer is between 40- 60 years. Comparing with other studies, numbers of HSIL cases were more in our study accounting for 7.14% out of 280 cases. LSIL incidence was less in present study compared to studies done by Ashok verma et al and Nayani et al. We also had one case of Adenocarcinoma which is very rare to diagnose on Pap smear examination.

Table no 7: Comparison of epithelial cell abnormalities with similar studies

Epithelial cell abnormality	Present study(280)	Ashok verma et al(200)[5]	Nayani(104) [7]
ASCUS	1.07%	1.0%	-
LSIL	2.14%	5.5%	8.6%
HSIL	7.14%	2.5%	3.8%
SCC	0.35%	-	0.9%
ADENOCARCINOMA	0.35%	-	-

To overcome barriers: An intense public health campaign regarding importance of screening methods should be conducted by district l, state and national level public administrators which should reach interior rural and tribal population also. Women should be provided with information about cervical cancer etiology, risk factors ,methods of prevention and accepting screening methods like Pap test, VIA.VILI etc,,. Policies that encourage and make regular practicing doctors to recommend and council the patients about the usefulness of Pap smear test and other screening services should be initiated. Facilities cable of carrying out Pap smear test should be established. Plan to organize rural and tribal screening camps to be done so that as many as eligible women as possible can get at least one Pap smear test which will result in detection of precancerous and cancerous lesions of cervix.

V. Conclusion

Carcinoma cervix is 100 % curable when detected in pre-invasive state. Pap test has been effective in reducing the incidence of cervical cancer by 80% and mortality by 70%. Screening levels are low in the general population which needs to be addressed. Cervical cytology by Pap smear is a simple, safe, quick and effective test and widely accepted screening method for early detection of premalignant and malignant lesions of cervix thus reducing treatment burden, morbidity and mortality. However, for any screening program to be successful in addition to the use of a reliable and accurate screening test ,high rates of coverage and ability to effectively provide treatment to test positive women are very important. There are resource limitations to establishing cervical cancer screening program as a priority program all over the country. Prudent measures to vaccinate adolescent girls can be carried out after getting consent. Research needs to be carried out in making HPV tests cheaper and accessible to the entire population through the national program.

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