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To study the utilization pattern of various cervical cancer screening methods and their outcomes among patients visiting outpatient department of a tertiary care hospital

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Abstract
Introduction: Cervical cancer is one of the leading causes of deaths among women worldwide, more so in developing countries like India. It is responsible for approximately 17% of deaths due to cancer in the 30-69 year age group. It is estimated that India contributes to one quarter of all cancer cases in world 1-2. Cervical cancer screening leads to significant reduction in mortality in women by early detection and treatment.

Aim and Objectives

1. To study the utilization pattern of various cervical cancer screening methods in patients attending Obstetrics & Gynecology OPD.
2. To study the socio demographic profile and various outcomes of cervical cancer screening in patients attending Obstetrics & Gynecology OPD.

Methodology: It was a record based retrospective study. Record of patients who underwent cervical cancer screening in Gynecology OPD from February 2017 to February 2018 was analyzed extensively. The data was entered in Microsoft Excel sheet and database created, appropriate statistical tests were applied and results were studied.

Results: A total of 1678 patients underwent cervical cancer screening during the study period for various indications. It was found that the majority of patients (n=1104) underwent liquid based cytology and conventional Pap smear was performed in the remaining study population (n=574). In the majority of patients (i.e. 52.5%), the Pap smear report was found out to be 'Reactive smear' and Squamous cell carcinoma was also reported in three patients.

Conclusion: Pap smear and liquid based cytology are important screening modality which significantly reduces the burden of cancer cervix cases by early identification and management.

Keywords: Pap smear, liquid based cytology, reactive smear, cervical cancer, cancer screening

Introduction

Cervical cancer is one of the leading causes of deaths worldwide, more so in developing countries like India. As per latest estimates, every year 122844 women are newly diagnosed as harboring cancer cervix and mortality due to the same is attributed to be 67477 per year [1]. It is estimated that India contributes to one quarter of all cancer cases in world [2-3]. Cancer cervix can be diagnosed timely by efficient Screening methods, thereby preventing significant morbidity and mortality. As compared to Conventional Pap Smear, Liquid based cytology has added advantage of less number of unsatisfactory smears, large representative sample and residual material can be used for HPV screening [4-5].

Therefore, this study was planned in the department of Obstetrics & Gynecology of a tertiary care hospital of northern India for assessing outcome of various cervical screening methods utilized by patients reporting in the outpatient department.

Aim and Objectives

1. 1. To study the utilization pattern of various cervical cancer screening methods in patients attending Obstetrics & Gynecology OPD.
2. To study the socio demographic profile and various outcomes of cervical cancer screening in patients attending Obstetrics & Gynecology OPD.

Material and Methods

It was a record based retrospective study carried out in the Outpatient Department of tertiary care hospital. The records of patients who underwent cervical cancer screening in Gynecology OPD from February 2017 to February 2018 were collected and analyzed extensively using the 2014 Bethesda System. A checklist was designed for collecting data and pretested before using in the study. The record of all patients who underwent cervical cancer screening during the study period was included. The confidentiality of patient data was ensured. The data was entered in Microsoft Excel sheet and database created. The appropriate statistical tests were applied and results were studied.

Observations and Results

It was found that a total 1678 patients underwent cervical cancer screening during the study period. On age group wise analysis, it was observed that majority of the patients (33%) were in 31-40year age group followed by patients in the 20-30year age group (27%). It was also found that the majority (54%) of the patients were from urban areas [Table No.1].

Table 1: Distribution of patients according to age and area of residence

Distribution according to age		
Sr. No.	**Age (in Years)**	**No. of Patients**
1	20-30	458 (27.3%)
2	31-40	550 (32.77%)
3	41-50	392 (24.88%)
4	51-60	158 (9.41%)
5	>60	120 (7.15%)
	Total	1678 (100%)
Distribution as per area of residence		
Sr. No.	**Age (in Years)**	**No. of Patients**
1	Rural	768 (45.76%)
2	Urban	910 (54.23%)
Total		1678(100%)

It was observed that total 1678 patients underwent cervical cancer screening during the study period and in majority (66%) of them Liquid based cytology was performed. The other screening method employed was conventional Pap smear (34%). It reflects that liquid based cytology was more commonly utilized methods of screening [Table No.2].

Table 2: Utilization pattern of different cancer cervix screening techniques

Sr. No.	Specimen Type	No. of patients
1.	Conventional Pap Smear	574 (34.20%)
2.	Liquid Based Cytology	1104 (65.79%)
Total		1678(100%)

It was found that in most of the cases (94%), the specimen collected for cervical cancer screening was satisfactory for evaluation. Thus only 6% of the patient's specimen was inadequate for evaluation. [Table No. 3].

Table 3: Detail related to specimen adequacy

Sr. No	Characteristic	No. of Patients
1.	Satisfactory For Evaluation	1575 (93.8%)
2.	Unsatisfactory For Evaluation	103 (6.13%)
Total		1678(100%)

It was discovered that out of total 1575 valid cervical cancer screening samples, majority of them i.e. 1551(98%) fall in the "Negative for intraepithelial lesion or malignancy (NILM)" category. In the NILM category, the reactive changes were reported in maximum number of patients (53%) followed by non-neoplastic cellular variations (39%). Among the various reactive changes, inflammation was most commonly reported followed by changes post radiotherapy. It was observed that a total twenty two (22) patients had squamous cell abnormalities in their cervical cancer screening report. Among various squamous cell abnormalities, it was found that ASC-H was most commonly reported (71%). Glandular cell abnormalities were reported in two patients. Further, it was observed that cervical biopsy was performed in seventeen (17) patients and among them majority (71%) were found to have moderately differentiated squamous cell carcinoma [Table 4].

Table 4: Results / interpretations of cervical cancer screening as per the 2014 Bethesda Classification

I. Subcategory wise analysis of Negative for intraepithelial lesion or malignancy (NILM)				
Sr. No.	**Subcategory**		**Total No.**	**Percentage (%)**
1	Non-Neoplastic Cellular Variations		618	39.23%
2	Reactive Changes associated with			52.5%
	a)	Inflammation	810	6.73%
	b)	RT	16	
	c)	IUCD	1	
3.	**Organisms:**			
	1.	Bacterial Vaginosis	104	
	2.	Candidiasis	2	
II. Analysis of various epithelial cell abnormalities II (a) Squamous cell abnormalities				
Sr. No.	**Type of Squamous Cell Abnormality**		**Total No.**	**Percentage (%)**
1	ASCUS		1	4.16
2	ASC-H		17	70.83
3.	LSIL		1	4.16
4.	HSIL		0	0
5.	SCC		3	12.5
II (b) Glandular cell abnormalities				
Sr. No.	**Type of Glandular Cell Abnormality**		**Total No.**	**Percentage (%)**
1.	Endo cervical (NOS)		1	4.16
2.	Atypical Glandular Cells favour Neoplastic		1	4.16
III. Analysis of cervical biopsy (HPE)				
Sr. No.	**Type of abnormality**		**Total No.**	**Percentage (%)**

1	Moderately differentiated Squamous Cell Carcinoma	12	70.5
2	Well differentiated Squamous Cell Carcinoma	1	5.88
3.	Chronic Cervicitis	2	11.76
4.	Small Cell Carcinoma	1	5.88
5.	Moderately differentiated Adeno- carcinoma Cervix	1	5.88

Discussion

Cervical cancer screening is a key tool for early diagnosis and management of cervical cancer. Pap smear is one of the most effective screening modality for cancer cervix. George Papanicolau was the person who introduced Pap Smear in 1940 [6]. There are various limitations of Conventional pap smear which have been overcome by introduction of Liquid based cytology. This finding was correlated with our study, where Liquid based cytology was preferred in the majority of patients (66%). In the current study, it was found that the majority (33%) of patients in the 31-40year age group underwent cervical cancer screening which is in agreement with the finding of study carried out by Sunita *et al.* [7]. In another study [8], it was found that cervical cancer in India is most commonly seen in the age group of 55-59 years. This concern is adequately addressed by the finding of our study as the majority (85%) of the patients who underwent cervical cancer screening was in the age group 20-50 years. This reflects that the patients who had cervical cancer screening at an early age leading to early diagnosis and treatment with overall good prognosis of their disease. One of the findings in our study was that the majority (54%) of the patients who underwent cervical cancer screening were from urban backgrounds, which reflect that women residing in urban areas are more aware about probable symptoms of cancer cervix. However, the difference in utilization of cervical cancer services among the urban and rural women was not statistically significant ($p>0.05$). In the current study, it was revealed that most of the cervical cancer screening specimens were adequate for evaluation and only 6% specimens were found to be unsatisfactory for evaluation. This finding was in agreement with a finding of study conducted by Vikrant Bhan Singh *et al*. [9] where 4.3% smears were unsatisfactory by Conventional Pap Smear. In our study it was observed that 98% patients had NILM and majority (53%) of these patients were found to have reactive smear. Among reactive changes, inflammatory smear was seen in 51% patients and this finding was similar to outcome of another study done by Mandakini *et al*. [10] (57.5%). In the current study, it was found that Bacterial vaginosis was the commonest infection and ASC-H was the most common epithelial cell abnormality. Among all cases, Squamous cell carcinoma was found in 0.190% of patients which was slightly lower than the finding of study carried out by Sunita *et al.* [7] (0.5%). In the current study, ASCUS finding was reported in 0.063% patients who were lower than finding of study done by Gajashree *et al*. [11] in which it was 1.53%. In our study, LSIL was reported in 0.063% of patients which was comparable to the outcome of study concluded by Mandakini *et al*. [10] who found prevalence of LSIL to be 0.1%. Out of total patients with satisfactory smear, eighteen (18) patients had suspicious smear and were advised biopsy in the current study. Commonest histopathology report of biopsy of patients with suspicious cervix was moderately differentiated Squamous cell carcinoma.

Conclusion

Cancer cervix is one of the most common catastrophes faced by women of developing countries like India. Cancer cervix screening is an important modality which significantly reduces the burden of cancer cervix cases by early identification and management. Utilization of Liquid based cytology has increased and especially revolutionized cancer cervix screening and has produced great results. Good Patient Education and awareness programmes to emphasize upon risk factors and various screening methods are necessary to prevent undue morbidity and mortality.

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References

1. Key Data on HPV and HPV related cancers. India Human Papilloma Virus and Related Cancers, Fact Sheet, 2017.
2. Ferlay J, Soerjomataram I, Ervik M, Forman D, Bray F, Dixit R *et al*. GLOBOCAN 2012, Cancer Incidence and Mortality Worldwide in 2012. Lyon, France: International Agency for Research on Cancer, 2012. [Last accessed on 2015 Dec 03]. Available from: http://www.globocan.iarc.fr.
3. Institute for Health Metrics and Evaluation. The Challenge Ahead: Progress in Breast and Cervical Cancer. Institute of Health Metrics and Evaluation, 2011. [Last accessed on 2016 Jan21]. Available from: http://www.healthmetricsandevaluation.org/publications/policyreport/challenge-ahead-progress-and-setbacksbreastand-cervical-cancer.
4. Utagawa ML, Pereira SM, Makabe S, Maeda MY, Marques JA, Santoro CL *et al*. Pap test in a high-risk population comparison of conventional and liquid-based cytology. Diagn Cytopathol. 2004; 31:169-72.
5. Strander B, Andersson-Ellström A, Milsom I, Rådberg T, Ryd W. Liquid-based cytology versus conventional Papanicolaou smear in an organized screening program: A prospective randomized study. Cancer. 2007; 111:285-91.
6. Papanicolaou GN. Introduction of Pap smear in early detection of cervical malignancies. Am J Clin Path. 1940; 19:301-8.
7. Sunita A Bamanikar, Dadaso S Baravkar, Shirish S Chandanwale, Prachet Dapkekar. Study of Cervical Pap smears in a Tertiary Hospital. Indian Medical Gazette, 2014, 250-254
8. World - both sexes estimated incidence by age. [Accessed October 30, 2014]. Available from: http://www.globocan.iarc.fr/old/age_specific_table_r.asp?
9. Singh VB, Gupta N, Nijhawan R, Srinivasan R, Suri V, Rajwanshi A *et al*. Liquid-based cytology versus conventional cytology for evaluation of cervical Pap smears: Experience from the first 1000 split samples. Indian J Pathol Microbiol. 2015; 58:17-21.
10. Mandakini M Patel, Amrish N Pandya, Jigna Modi. Cervical Pap smear study and its utility in cancer screening, to specify the strategy for cervical cancer control. National Journal of Community Medicine. 2011; 2:1:49-51.
11. Gajashree S *et al*. A Study of Cervical Epithelial Lesions by Pap smears in a Teaching Hospital at Puducherry. Sch. J App. Med. Sci. 2016; 4(12C):4368-4371.