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SPECTRUM OF PAP SMEAR AMONG PATIENTS ATTENDING GYNAECOLOGY OPD OF ONE OF THE RURAL TERTIARY CARE CENTRES OF GUJARAT, INDIA

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Abstract:
Mortality and morbidity due to cervical cancer can be prevented if diagnosed early. Pap smear examination is the most effective diagnostic method for identifying cervical cancer at any stage, premalignant, malignant and also for benign lesions of the cervix. The present study was conducted to estimate the number of cervical cancer cases and to evaluate the pattern of various cervical lesions of patients attending our Gynaecology OPD of the rural tertiary care centre. A Cross-sectional study was conducted for one and half years from January 2020 to July 2021 to find out the pattern of cervical lesions diagnosed by using a Pap smear at a tertiary care centre in Gujarat. All the eligible women attending the gynaecology outpatient department were informed regarding Pap smear examination. A predesigned pro forma was filled out for all the women who consented to undergo a Pap smear examination. The maximum 548 (54.8%) cases had inflammatory lesions, 323(32.3%) cases were diagnosed as negative for Intraepithelial Lesion or Malignancy (NILM), 47(4.7%) cases were diagnosed as Low-Grade Squamous Intraepithelial Lesion (LSIL), 32(3.2%) cases were diagnosed as High-Grade Squamous Intraepithelial Lesion (HSIL), 28 (2.8%) cases were diagnosed as Atypical Squamous Cells of Undetermined Significance (ASCUS),& 22 (2.2%) cases were diagnosed with squamous cell carcinoma (SCC). Pap smears can be an effective screening method for early identification of cervical carcinoma. Every eligible woman should be counselled regarding Pap smear examinations irrespective of their presenting complaint among all the patients attending Gynaecology OPD.

Keywords: Cervical cancer, Pap smear, Prevention

Introduction

Cervical cancer is the second most common cancer among Indian women.[1] Seventeen percent of all cancer deaths among women aged between 30 and 69 years are attributed to cervical cancer.[2] It is beneficial if every woman between 30 and 49 years undergo cervical screening at least once.[3] For detecting cervical cancer and premalignant lesions, Pap smear is identified as an important and relevant method.[4] Detection of cervical cancer at an early stage and the widespread use of cervical screening programs in developed countries have dramatically reduced the incidence and mortality of cervical cancer.[5] Despite national guidelines, the screening coverage in India is appallingly low. As a result, the diagnosis of carcinoma cervix is based on opportunistic screening or after the onset of the symptoms.[6] The present study was planned to estimate the number of cervical cancer cases and to evaluate the pattern of various cervical lesions of patients attending our Gynaecology OPD of the rural tertiary care centre.

Material and Methods

A cross-sectional study was conducted at a rural tertiary care centre in Gujarat state, India. All the women who were sexually active attending the gynaecology outpatient department from January 2020 to July 2021 were included in the study. The study excluded pregnant women, patients under 20 years of age and sexually inactive, and all unmarried women. A pap smear examination was done for all women who gave consent. For the patients who came for multiple visits, the result of only the first visit was included. Basic demographic information and clinical history were recorded in predesigned pro forma. All Pap smear findings were noted and classified according to the 2001 Bethesda System reporting Pap smear cytology.

Smear Collection: The standard procedure for taking conventional smear was followed in the Pap clinic. In the lithotomy position, cervical smear samples were collected from the squamocolumnar junction using an Ayres spatula and cytobrush by the gynaecologist at the Department of Obstetrics and Gynaecology. The cellular material obtained was smeared on two clean glass slides and immersed in Coplin jars containing preservatives and fixatives (i.e. 95% ethyl alcohol). Then, these samples were sent to the pathology department with detailed clinical history and information about the patient. These smears were stained using Papanicolaou stain and studied under the microscope. The Institutional Ethics Committee of GMERS Medical College, Himatnagar, Gujarat, approved the study protocol. Informed consent was obtained from each patient.

Results

Pap smear examination of 1000 women who attended the Gynecology outpatient department was conducted.

Table – 1 Socio-demographic profile of the study population

Age	No of Cases (1000)	Percentage (%)
20-29	50	5
30-39	300	30
40-49	490	49
50-59	150	15
>60	10	1

Table 1 shows that the mean age of women was 37 years, with a standard deviation of 9 years. Around 49% of females belonged to the 40 to 49 age group.

Table – 2 Parity-wise Distribution of Total Cases

Parity	No of Cases (1000)	Percentage (%)
Nulligravida	52	5.2
Primi gravid	186	18.6
Multi gravid	762	76.2

Table 2 shows that around 76.2% of females were multi-gravida, and only 5.2% were nulli-gravida, indicating that multiparity is a significant risk factor for cancer in the cervix.

Table – 3 Clinical Presentation wise Distribution of Total Cases

Clinical Presentation	No of Cases (1000)	Percentage (%)
Asymptomatic	110	11
Discharging P/V	325	32.5
Inter Menstrual Bleeding	145	14.5
Postcoital bleeding	54	5.4
Pruritus vulvae	186	18.6
Abdominal pain	173	17.3
Postmenopausal Bleeding	07	0.7

Table 3 shows that around one-third (32.5 %) of the patients attended the OPD with complaints of discharge per vagina. Eleven percentages (11 %) of participants were asymptomatic.

Table 4: Pap smear cytology-wise distribution of Total Cases

Pap Smear Cytology	No of Cases (1000)	Percentage (%)
NILM	323	32.3
Inflammatory	548	54.8
ASCUS	28	2.8
LSIL	47	4.7
HSIL	32	3.2
SCC	22	2.2

NILM: Negative for Intraepithelial Lesion and Malignancy, LSIL: Low-grade Squamous Intraepithelial Lesion, HSIL: High-grade Squamous Intraepithelial Lesion, ASCUS: Atypical squamous cells of undetermined significance, SCC: Squamous Cell Carcinoma

Table 4 shows that the maximum 548 (54.8%) cases were diagnosed as having inflammatory lesions. Around 323 (32.3 %) cases were NILM (Negative for Intraepithelial Lesion and Malignancy), 47 (4.7%) cases were diagnosed as LSIL, 32 (3.2%) cases were diagnosed as HSIL, 28 (2.8%) cases were diagnosed as ASCUS (Atypical Squamous Cells of Undetermined Significance), & 22 (2.2%) cases were diagnosed with SCC (Squamous Cell Carcinoma).

Table 5: Per speculum examination findings of cases

Findings	No of Cases (1000)	Percentage (%)
Healthy looking cervix	175	17.5
White discharge	268	26.8
Hypertrophied cervix	92	9.2
Cervical erosion	368	36.8
Bleeds on touch cervix	75	7.5
Cervical growth	22	2.2

Table 5 shows that on per speculum examination, cervical erosion was present in 368 (36.8%), white discharge was seen in 268 (26.8%), healthy looking cervix in 175 (17.5%), hypertrophied cervix in 92 (9.2%), bleeds on touch cervix in 75(7.5%), and cervical growth in 22 (2.2%). Abnormal Pap smear was reported more in patients with bleeding on the touch cervix and in chronic cervicitis.

Table 6: Correlation of Pap smear finding with symptoms

Symptoms	NILM (323)	Inflammatory (548)	ASCUS (28)	LSIL (47)	HSIL (32)	SCC (22)
Asymptomatic (110)	75	34	01	00	00	00
Discharging P/V (325)	80	207	06	07	10	15
Inter menstrual bleeding (145)	09	115	01	11	09	00
Postcoital bleeding (54)	17	20	01	03	09	04
Pruritus vulvae (186)	62	119	03	01	01	00
Abdominal pain (173)	77	52	15	23	03	03
Postmenopausal bleeding (07)	03	01	01	02	00	00

Table 6 shows that abnormalities in Pap smear findings were seen in patients presenting with discharge p/v, abdominal pain, and postcoital bleeding. HSIL, LSIL, and SCC were not reported in asymptomatic patients. SCC was seen in patients with symptoms of discharge p/v, postcoital bleeding, and abdominal pain.

Discussion:

Changes in the population's lifestyle have led to the emergence of noncommunicable diseases in developing countries. Cervical cancer and breast cancer are important causes of public health problems in India, both of which can be diagnosed early and prevented from growing by timely and appropriate treatment. Screening programs are there by which detection of precancerous conditions before they progress to invasive cancers is possible.[7, 8]

The Papanicolaou (Pap) test is a screening test performed in outpatient departments or medical camps. The present study for detecting cervical cancer was conducted among 1000 patients attending the Gynecology outpatient department of one of the rural teaching institutes of Gujarat using a Pap smear examination. In the present study, most patients (49%) were between 40 and 49 years of age, followed by those aged 30 to 39 (30%). Similar findings were noted in the study carried out by Gupta et al.[9.] In other studies conducted by Vaghela BK et al.[10] and Chankapa YD et al.,[11] the majority of participants were from the age group 30- 39 years and 40-49 years.

The present study diagnosed the maximum (54.8%) cases as having inflammatory lesions. Around 32.3 % of cases were NILM (Negative for Intraepithelial Lesion and Malignancy), while 4.7% and 3.2 % were diagnosed as LSIL and HSIL, respectively. Atypical squamous cells of undetermined significance (ASCUS) were present in 2.2 % of cases. Minimum cases of LSIL (0.93%) were seen in the study conducted by Gupta et al.[9] Chankapa YD et al. [11] did have similar findings. Verma et al.[12] mentioned in their research that NILM was seen in 56% of women, which is higher than in the present study. The study carried out by Sachan et al. [13] mentioned that Atypical squamous cells of undetermined significance (ASCUS), low-grade squamous intraepithelial lesions (LSIL), and high-grade squamous intraepithelial lesions (HSIL) were detected in 2.90%, 5.09%, and 0.48% cases, respectively. Padmini et al.[14] also reported ASCUS (8%), LSIL (5%), and HSIL (3%) in women screened with the Pap smear test.

Conclusion:

Pap smear examination is a simple, useful, cost-effective and safe screening method. It should be conducted as a routine screening procedure in all the eligible women attending the gynaecology department to diagnose cervical cancer at a very early stage. If it is established as a routine screening procedure, we can reduce morbidity as well as mortality to a large extent. Awareness of the cervical cancer screening programs should be spread to women as most of them do not know about it.

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