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Evaluation of Papanicolaou Smear in Antenatal Patients in Garhwal Region

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ABSTRACT

Cervical cancer is the second most prevalent cancer worldwide. The incidence of late stage cervical cancer is high in women of hilly areas because of low socio-economic status, low literacy rate, poor accessibility of health services due to hilly terrain and inadequate conveyance in Garhwal region. It is very important to do screening in young women because many studies report that the mean age of patients with histologically proven carcinoma has been falling.

Women during pregnancy are more health conscious and most receptive for health education, so we took this opportunity to counsel women and screen pregnant patients for cervical pathologies. It was observed that 47.3 % women had Normal Pap smears, 48 % women had Inflammatory Pap Smears and significant pathology was found in 4.6% cases. (5 cases were mild dysplastic (CIN I) and 2 were ASCUS).

Keywords- Pap smear, cervical cancer, HPV

INTRODUCTION-

Cervical cancer is the seventh cancer in overall frequency, but the second most common cancer among women worldwide. An estimated 493,000 new cases and 274,000 deaths occurred from cervical cancer in the year 2002.[1] In general terms, cervical cancer is much more common in developing countries, where 83% of cases occur and where cervical cancer accounts for 15% of female cancers, with a risk before age 65 of 1.5%. In developed countries, cervical cancer accounts for only 3.6% of new cancers, with a cumulative risk (0 to 64) of 0.8%.[2]

Papanicolaou (Pap) smear test is considered the best approach to reduce cervical cancer incidence worldwide.[3] In pregnancy, the only diagnosis that may alter clinical management is invasive cancer. The presence of cancer may change treatment goals for the route and timing of delivery. Cervical cancer screening test results that are not likely to be associated with cancer may undergo colposcopic evaluation either during pregnancy or postpartum. The incidence of precancerous lesions of the cervix peak with occurrence of pregnancies within the same decade in women aged 25 to 35 years of age, antepartum care presents an opportunity to offer a Pap smear thereby increasing the coverage of the programme.[4]

MATERIAL AND METHOD

This was a prospective study of the Papanicolaou Smear in pregnant females (18-45 yrs of age at time of examination) presenting for their initial obstetric visits. This study was conducted in General Obstetrics & Gynaecological OPD at HNB Base Hospital Srikot, Pauri Garhwal after considering the inclusion criteria and taking informed consent. A questionnaire was prepared for the patients which included their menstrual, obstetrical and past history, and their awareness regarding risk factors.

Materials used were Cosco's bivalve self retaining speculum, Cervical ctyo-brush, glass slide, Ayre's spatula.

This study was undertaken keeping in view the rural community of Garhwal region. The assessment was performed by means of a questionnaire survey. Outcome measures were percentage of women with risk factors for cervical cancer and use of Pap smear test and had undertaken Pap smear test. Binary logistic regression analysis was carried out to identify possible predictors of Pap smear test undertaken.

OBSERVATIONS & RESULT

150 pregnant females were included in this study. Pap smear examinations were well tolerated by all females.

Table 1. Pap Findings/Outcomes in patients included in this study

Findings	% of patients
Normal	47.33
Inflammatory	48
ASCUS	1.33
Mild Dysplasia (CIN I)	3.34
CIN II	0
CIN III	0

Table 1 showing 71 patients (47.3 %) had Normal Pap smears, 72 (48 %) had Inflammatory Pap Smears. Significant pathology was found in 7 cases, of these cases 5 cases were mild dysplastic (CIN I) and 2 were ASCUS.

Table 2. Age group of the patients included in the study

Age group (yrs)	No. of patients	% of patients
15-20	35	23.33
21-25	66	44
26-30	22	14.67
31-35	15	10
36-40	12	8

In Table 2 the mean age of the sample was 25.6 years (18-40 years of age) with 44% of the patients in the 21-25 year old range.

Table 3. Locality of the patients compared with their percentage

Locality	No. of Patients	% of patients
Rural	103	68.67
Urban	47	31.33

68.67% of them belong to rural area and 47 residents were urban population (Table 3).

All (100%) of the patients received information on Pap smear through our study. None of them knew that Pap smear is used for prevention of cervical cancer. The patients of our study group had never heard of and had not undergone Pap smear screening before. All the patients who were in the study group were Hindus.

Table 4. Gravida of the patients included in the study compared with their percentage

Gravida	No. of patients	% of patients
Primi	81	54
G2	31	20.6
G3	23	15.3
>G4	15	10

Table 4 showing 54% of the patients were primigravida and less half of them had 2-5 children with none of them having multiple sexual partners.

Table 5. Awareness about risk factors compared with the patients included in the study

Risk Factors	% of patients
Multiple Sexual Partners	27.6
Smoking	17.2
STD	14.7
OCP	9.9
Parity>3 children	5.7
HIV/AIDS	1.7
Unaware	24.3

When asked about the risk factors for cervical cancer, 27.6% of patients identified having multiple sexual partners (MSP) as a risk factor. Cigarette smoking (17.2%), having a sexually transmitted disease/ infection (14.7%), oral contraceptive use (9.9%), high parity i.e. >3 children (5.7%), and HIV/AIDS (1.7%) were among other factors identified by patients as risk factors for cervical cancer. Less than 24.3% percent had no idea about the risk factors for the disease. (Table 5)

About 2/3 of the women reported that they had regular menses, while rest of them reported they had irregular menses.

Table 6. Use of Contraceptives in the patients included in the study

Type of Contraceptive	No. of patients	% of patients
Nil	72	47.33
OCPs	15	10
Cu-T	11	7.33
Barrier	52	34.67

In Table 6, about 47.33% of the participants said that they were not using any contraceptive method currently, among the rest most commonly used contraceptive method was CI (coitus interruptus) (35.3%), followed by OCPs (oral Contraceptive Pills) (10.3%), IUDs (Intra uterine Devices) (6.4%).

DISCUSSION

Our study intended to screen maximum patients for cervical carcinoma, but only 150 patients were included in the study. The reason for decrease in sample size may be attributed to the rainy season in hilly terrain of Uttarakhand causing recurrent landslides and frequent road blocks, due to which the patients were unable to report to hospital for their regular gynaecological checkups. The screening uptake was very poor due to a combination of inappropriate beliefs, misapprehension, and deficient knowledge. Most of the people in rural locality do not go for regular antenatal checkups due to age old customs and belief regarding child birth at home. The patient' compliance was very low, the patients were very reluctant in giving consent for the screening test. Low level of awareness was also contributory to low Pap Smear uptake. The habit of having an annual visit to a clinician for a Pap smear appears to be firmly entrenched.

Pap Smear is the screening method for the Cervical pathologies. It can detect about 60-70% of the cancer of cervix and about 70% of endometrial cancers.[5] Cervical cancer is one of the most common cancers among women worldwide.[6] Its mortality exemplifies health inequity, as its rates are higher in low & middle income countries. [7] We speculate that the years of socialization by the media and various organizations promoting Pap smears as an integral part of women's health care will be difficult to overcome. It is not surprising, then, that women in this study are reluctant to consider risk-based cervical cancer screening. In part, their reluctance appears to be based on a lack of knowledge about the risk factors for cervical cancer, its natural history, and the effectiveness of annual compared with triennial screening. To overcome the misperceptions and concerns expressed will require considerable education, communication, and reassurance.

In a study by Bhutia K, Puri M, et al[7] done at Department of Obstetrics and Gynecology, Lady Hardinge Medical College, Delhi, India reported inflammatory Pap smear in 32.9% of the patients, whereas 16.67% of women had CIN. Another study by Ma L, Bian ML,Wang XH et al [8] conducted at "Department of Obstetrics and Gynecology, China-Japan Friendship Hospital, Beijing 100029, China" reported that the inflammatory samples were 10.52%, and the samples of atypical squamous cells (ASC) in antenatal women was 5.65% and 2.97% were of low-grade squamous intraepithelial lesions (LSIL). On the other hand, in our study, more inflammatory smears were reported in 48% of cases. ASC and LSIL showed similar pattern in 1.33% and 3.33% women respectively.

The most common age group who participated in the study belong to the range 21-25 years. A study by de González et al, 2004 [9] depicted high parity (3 births or more) increases the risk of cervical cancer by 51% compared to women with no births. According to our study, 38 patients (25.33%) had high parity (>3 births), and none of them had normal Pap smear. Thus our study correlates with the earlier one, in depicting the risk of disease higher in women with high parity. Though the rural population was reluctant in participating in the study, but 103 patients (68.67%) who participated in it belong to rural area.

In our study, we observed that 72 women (47.33%) did not use any contraceptive method. This may be correlated to lack of awareness and misperceptions among rural population of Garhwal region. Non-use of contraceptive methods [10] can lead to worsening of the condition leading to dysplasia and invasion.

Thus importance of Pap smear screening increases in such patients, to decrease the incidence of cervical carcinoma.

The awareness of cervical cancer risk factors among the patients was poor and it does not depend on socio-demographic factors. The prevalence of risk factors for cervical carcinoma according to the Behavioral Risk Factor Surveillance System includes a number of factors.

Inquiring about risk factors, such as sexual habits, is often embarrassing (to providers and patients), and depending upon how the risk factors are assessed, the findings can have questionable validity.[11] Additionally, some risk factors (race, for example[12]), can be poor predictors compared with other factors (such as number of sexual partners), and no adequate models exist for predicting cervical cancer.

Finally, concerns have been raised about compliance with other screening procedures, such as mammography, clinical breast examinations, and fecal occult blood testing, if the frequency of cervical cancer screening is reduced.[13] In our study other screening procedures were not included, only Pap Smear testing was done and evaluated thereafter.

CONCLUSION

This preliminary study shows Pap smear to be well tolerated, not causing cervical trauma and effective for detecting cervical pathology in pregnant females. There was low uptake of Pap smear test and low level of knowledge on prevention of cervical cancer and risk factors, thus warranting urgent extensive health education program for the rural communities.

There is an urgent need for an aggressive awareness campaign and the provision of a screening program nationally. Women were reluctant to engage in risk-based cervical cancer screening. In this environment, risk-based cervical cancer screening recommendations are likely to be met with resistance.

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APPENDIX
The Bethesda System 2001 (Abridged)
SPECIMEN ADEQUACY
Satisfactory for evaluation *(Note presence/absence of endocervical/transformation zone component)*
Unsatisfactory for evaluation *(Specify reason)*
Specimen rejected/not processed *(Specify reason)*
Specimen processed and examined, but unsatisfactory for evaluation of epithelial abnormality because of *(Specify reason)*

GENERAL CATEGORIZATION *(Optional)*
Negative for intraepithelial lesion or malignancy
Epithelial cell abnormality
Other

INTERPRETATION/RESULT
Negative for intraepithelial lesion or malignancy
Organisms
Trichomonas vaginalis
Fungal organisms morphologically consistent with Candida species
Shift in flora suggestive of bacterial vaginosis
Bacteria morphologically consistent with Actinomyces species
Cellular changes consistent with herpes simplex virus
Other non-neoplastic findings (optional to report: list not comprehensive)
Reactive cellular changes associated with inflammation (includes typical repair)
Radiation
Intrauterine contraceptive device
Glandular cells status post hysterectomy
Atrophy
Epithelial Cell Abnormalities
Squamous cell
Atypical squamous cells (ASC)
• Of undetermined significance (ASCUS)
• Cannot exclude HSIL (ASC-H)
Low-grade squamous intraepithelial lesion (LSIL)
• Encompassing: human papillomavirus/mild dysplasia/cervical
• Intraepithelial neoplasia (CIN-1)
High-grade squamous intraepithelial lesion (HSIL)
• Encompassing: moderate and severe dysplasia, carcinoma in situ;
CIN-2 and CIN-3
• Squamous cell carcinoma
Glandular cell
• Atypical glandular cells (AGC) *(Specify endocervical, endometrial or not otherwise specified)*
Atypical glandular cells, favor neoplastic *(Specify endocervical or not otherwise specified)*
Endocervical adenocarcinoma in situ (AIS)
Adenocarcinoma
Other *(List not comprehensive)*
Endometrial cells in a woman 40 years of age or older

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