

## Study Of Awareness And knowledge Of Pap Smear As A Screening Test For Cervical Cancer

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### Abstract

**Background:** Cancer is a leading cause of death in females in age group of 35–65 years. Cervical cancer is the fourth most common cancer in females worldwide. The primary cause of this cancer is infection with human papillomavirus. Human papillomavirus (HPV) is a DNA virus that pass through skin-to-skin contact and sexual intercourse. **Objective:** The aim of this study is to assess the awareness about Pap smear and clinical utility. **Material and method:** This clinical study was carried out to assess the awareness about Pap smear, to identify their attitude towards Pap smear and to assess specificity of Pap smear for detection of cervical cancer in the Department Of Obstetrics and Gynecology, Muzaffarnagar Medical College, Muzaffarnagar. The total sample size was determined to be 500 subjects. Questionnaire survey was done from OPD patients of obstetrics and gynaecology Department, healthcare workers (paramedics and others ) of reproductive age group working in the institute at muzaffarnagar medical college and hospital, muzaffarnagar. Women who were already undergone Pap smear at least once were encouraged to get it done again if she is under that time duration, while remaining women were encouraged to undergo Pap smear test. **Results:** Six months data (September-February) 2019-2020 were collected. Out of 500 participants 208 participants were aware of cervical cancer and 120 participants were aware of Pap smear. Among 500 participants 413 underwent Pap smear. In our study, 24 % (120/500) of participants are aware of Pap smear out of which 86.66 % (104/120) say it is for early detection of cervical cancer. Time interval to repeat Pap smear in every 3 years is said by 45 % (54/120) and best timing to do the test is 10th to 20th days of menstrual cycle said by 35% (42/120). However, scoring of knowledge suggests only 19.16 % (23/120) is having adequate knowledge, i.e. they have given correct answer to all the three questions. **Conclusion:** Knowledge about Pap smear and cervical cancer was important in predicting Pap test doing. In addition, inadequate knowledge was introduced as the most important barrier to screening test from the perspective of women. The Pap test has fairly good specificity in detection of cervical pathology in asymptomatic women.

**Keywords:** Knowledge, Cervical cancer, Pap smear, Barriers.

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### Introduction

Cancer is a leading cause of death in females in age group of 35–65 years. Cervical cancer is the fourth most common cancer in females worldwide. Every year estimated 528,000 new cases occur, out of which 85% cases are in developing countries. There was approximately 266,000 deaths for carcinoma cervix worldwide in 2012 [1]. India accounts for about 20% of cervical cancer cases reported from the world [2]. More than three-fourth of these patients are diagnosed in advanced stages leading to poor prospects of long term survival and cure [2]. One in every five women in the world who is suffering from cervical cancer belongs to India which has the largest burden of cervical cancer patients in the world. The disproportionate increase in developing countries is due to lack of effective screening, diagnosis and limited treatment. It is possible to prevent deaths due to cervical cancer through various strategies that target women >30 year for screening and treatment [3].

The introduction of Papanicolaou (Pap) test led to significant reduction in mortality and morbidity. In several western countries where screening programme has been linked to effective treatment, cervical cancer rate has been decreased

by as much as 65% [1]. The overall sensitivity of the Pap test in detecting a high-grade squamous intraepithelial lesion (HSIL) is 70.80% [4]. A Pap screening done in association with an HPV DNA test increases the sensitivity for early detection of precancerous lesions [5]. Every year in India, 122,844 women are diagnosed with cervical cancer and 67,477 die from the disease [6]. It has been found that in many developed countries the annual incidence and prevalence of cervical cancer has decreased by 50%-70% after introduction of population based screening [2]. So if women in India undergo screening for cervical cancer, it is possible to detect the cancer in early stages thereby reducing mortality and morbidity. Screening would be broadly influenced by:

- Knowledge about cervical cancer, its screening among women
- Role of health care providers who come in contact with women in hospitals and the sources of information
- Facilities available and the awareness of facilities.

There is a need to spread cervical cancer screening awareness programs, educate women regarding the symptoms of cancer, and motivate them to visit the hospital for a cancer screening. Women and all family members should be counseled about the need for cancer screening. Pap smear-positive women need adequate treatment and regular follow-up. Thus, we have to strengthen our health services and health-care system to include screening at primary health centers epithelial neoplasia and the early stage of invasive cervical cancer. It was planned that after the data collection, the women would be educated about cervical cancer, its screening methods and the facilities available for screening in the hospitals. A hand-out was also

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provided to these women in the local language of their preference. Hence the aim of this study is to assess the awareness and knowledge about Pap smear, to identify their attitude towards Pap smear.

#### Material and method

There is a study of 500 women of age between 21 and 65 years to know the awareness and knowledge of Pap smear.

Questionnaire survey was conducted in the Department of Obstetrics and Gynaecology of Muzaffarnagar Medical College and hospital, Muzaffarnagar. Duration of study was Sept 2019 to Feb 2020

#### Inclusion Criteria

Were married lady in age between 21 and 65 years.

#### Exclusion Criteria

Were ladies with post total hysterectomy and who were already detected with premalignant lesion of cervix. Written informed consent was obtained from all women. Patients were placed in the lithotomy position, and a sterile bivalve speculum was inserted into the vagina. The posterior vaginal wall was retracted posteriorly and the anterior vaginal wall anteriorly to allow proper visualization of the cervix and vaginal wall. A sample was taken from the ectocervix by rotating a wooden Ayre spatula 360°. The sample was quickly smeared onto a labeled glass slide and fixed with 95% ethyl alcohol in a jar. The glass slides were sent to the Department of Pathology for cytopathological examination. Laboratory results were reported according to the new Bethesda System for Reporting Cervical Cytology. Women who had abnormal Pap test results, including atypical squamous cells of undetermined significance (ASCUS), low-grade squamous intraepithelial lesion (LSIL), and HSIL were sent for a Colposcopic examination.

#### Source of data

OPD patients, COVID positive patients of (Obstetrics and Gynecology Department), healthcare workers (paramedics and others) working in the institute at Muzaffarnagar Medical and hospital; Muzaffarnagar.

#### Statistical analysis

All data were collected, collated and analysed using Microsoft excel tool. Data were plotted in the excel sheet and then analysed basis key characteristics and findings. Correlations and broad trends were mapped. This was done after data cleaning to ensure the consistency and correctness.

#### Results

Six months data (September-February) 2019-2020 were collected. Awareness and knowledge of Pap smear were assessed.

Out of 500 participants 208 participants were aware of cervical cancer and 120 participants were aware of Pap smear. Among 500 participants 413 underwent Pap smear. In our study, 24 % (120/500) of participants are aware of Pap smear out of which 86.66 % (104/120) say it is for early detection of cervical cancer. Time interval to repeat Pap smear in every 3 years is said by 45 % (54/120) and best timing to do the test is 10th to 20th days of menstrual cycle said by 35% (42/120). However, scoring of knowledge suggests only 19.16 % (23/120) is having adequate knowledge, i.e. they have given correct answer to all the three questions. Study shows that awareness about Pap smear is statistically significant in occupation, awareness is more in participants doing some job like nurses, ward shahyika etc. (Table 1). Knowledge about Pap smear is statistically significant in married participants more than 35 years of age (Table 2).

**Table 1: Awareness about Pap smear with socio demographic data**

Variables	Awareness of pap smear	
	Yes	No
1 AGE		
<= 35 YEARS	76	256
> 35 YEARS	44	124
2. MARITAL STATUS		
MARRIED	102	345
OTHERS	18	35
3. OCCUPATION		
HOUSEWIFE	60	260
SERVICE	40	40
OTHERS	20	80
4 EDUCATION LEVEL		
ILLITERATE	10	120
UPTO 12 <sup>TH</sup> STANDARD	40	104
GRADUATE & ABOVE	70	156
4. RELIGION		
HINDU	104	240
OTHERS	16	140

**Table 2: To assess adequacy knowledge about Pap smear**

Variables	Knowledge of pap smear	
	Adequate	Inadequate
1. AGE		
<35 YEARS	11	60
>35 YEARS	12	37
2. MARITAL STATUS		
MARRIED	20	88
OTHERS	3	9
3. OCCUPATION		
HOUSEWIFE	12	62
SERVICE	10	28
OTHERS	1	7
4. EDUCATION LEVEL		
ILLITERATE	00	70
UPTO 12 <sup>TH</sup> STANDARD	10	20
GRADUATE & ABOVE	13	7
5. RELIGION		
HINDU	19	82
OTHERS	4	15

### Discussion

Human papillomavirus (HPV) is a DNA virus that pass through skin-to-skin contact and sexual intercourse. HPV plays an important role in development of genital warts, cervical intraepithelial neoplasia (CIN). Depending on their oncogenic potential, HPV types are grouped into [7]: High oncogenic risk—Types 16, 18, 31, 33, 35, 45, 56 can lead to cervical cancer and are associated with other mucosal anogenital and head and neck cancers and low oncogenic risk—Types 6, 11, 42, 43 can cause benign or low-grade cervical tissue changes and genital warts (condyloma acuminata), which are growths on the cervix, vagina, vulva and anus in women and the penis, scrotum or anus in men. Over 99.7% of patients with CIN and invasive cancer are found to be positive with HPV DNA. The various risk factors for HPV infection are early marriage, early and multiple child birth, multiple sexual partners, low socioeconomic status, family history of cervical cancer, smoking, long-term use of oral contraceptives and immuno-compromised state [8]. After introduction of Pap smear technology in 1940s, it has evolved rapidly through different reporting methods into presently well-established Bethesda system of reporting. Bethesda system recognizes both squamous and glandular cytologic abnormalities. The squamous cell abnormalities include atypical squamous cell ASC which are divided into two groups—one of undetermined significance (ASCUS) and other cannot exclude high-grade squamous intraepithelial lesions (ASCUS-H); low-grade squamous intraepithelial lesion (LSIL) which correlates with histologic CIN 1, high-grade squamous intraepithelial lesion (HSIL) which correlates with histologic CIN2, CIN3 and carcinoma in situ. Glandular cell abnormalities suggestive of adenocarcinoma are atypical glandular cell (AGC) endocervical, endometrial, or not otherwise specified, AGCs-favouring neoplastic, endocervical non-specific, endocervical adenocarcinoma in situ (AIS) and adenocarcinoma. Two methods of cytology screening presently available are—the conventional and the liquid based cytology. There is no significant difference in detecting cervical cytological abnormality except that added advantage of HPV testing for further guide in management in the liquid base procedure. Usefulness of polymerase chain reaction (PCR) for detection of high-risk subtypes of HPV has further enhanced the detection of early cervical abnormalities thus can reduce the risk of cervical dysplasia and cancer at subsequent evaluation by 40% [9]. In 2012, American Society for Colposcopy and Cervical Pathology (ASCCP) and the American Society for clinical pathology issued joint screening guidelines for different surveillance strategies and options based on age, screening history, risk factors and choice of screening tests [10]. The recommendations for women of average risk are:-1. Screening should begin at 21 years of age. Women aged 21–29 years should receive cytology every 3 years. HPV testing should not be performed in this age group (although it can be used to follow-up a diagnosis of ASCUS). Regardless of age of sexual initiation, women below 21 years need not be screened. 2. Age from 30 to 65 years preferred approach is to screen every 5 years with contesting—both HPV and cytology. 3. Women with post total hysterectomy status for noncancerous lesion need not undergo screening 4. Annual screening by any method is not recommended. 5. In spite of positive HPV-vaccinated status in women the screening should be followed as per schedule. Utility of Pap smear test for detection of other gynaecological lesions such as infection, inflammation, irradiation induced changes occasional malignancy from endometrium and ovary has been observed. Conventional cytology yields sensitivity of 30–40% in detection of endometrial cancer [11].

### Conclusion

Among 500 participants, 41.6% are aware of cervical cancer and 24% are aware of Pap smear. Among participants who are aware of Pap smear main source of information is health persons. Participants who are doing some job or service have statistically significant awareness having adequate knowledge. It is statistically significant in married women age more than 35 years of age. As only 63% (76/120) among participants who are aware of Pap smear who are more than 35 years of age and ever done Pap smear and only 30% (37/120) ever

recommended Pap smear to others, suggesting attitude towards practice of Pap smear is better compared to other studies. However, attitude towards recommending Pap smear to others is poor. With more awareness about cervical cancer it can be increased. With motivation knowledge, lectures about cervical cancer and Pap smear to all the participants 82.6% (413/ 500) underwent Pap smear, suggesting that with availability of proper resources and sharing of knowledge about cervical cancer attitude towards screening can be improved.

### Recommendation

Women should be encouraged to take responsibility of their own health and actively take part in various screening programme. Poor attitude towards practise of Pap smear can be improved by addressing the inhibition factors such as painful procedure, absence of symptoms. Areas of risk factors for cervical cancer need to be addressed by health personnel. Encourage people to marry above age of 21 years, encourage use of contraceptives and limit family size to two children. Although health personnel is the main source of information, repeated mobile health camps need to be conducted. This will help in covering wider population and spreading knowledge. Mass media (television, radio, newspaper) can be involved for repeated emphasis on routine screening for cervical cancer as part of cervical cancer screening programme.

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