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BARRIERS IN UPTAKE OF SCREENING OF CERVICAL CANCER

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ABSTRACT: Background: Cervical cancer is the second most common cancer in women worldwide, with over 90% of cases the occurring in developing countries. India attributes to about 15% of the cancer deaths in the world mostly in rural areas. This dangerous disease can be effectively prevented by creating awareness programs and the possibility of effective management with early screening. **Methodology:** A prospective questionnaire-based survey was conducted among women for a period of six months *i.e*., from 1st January 2016 - 30th June 2016. **Results:** Most of the study populations were students. Among them women were 353. Majority of the women 305(86%) have not attended screening stating few reasons. Among the 48 women who attended the screening, 23(47.9%) were identified with various symptoms and are on treatment. Out of these, 3 members were diagnosed with carcinoma of the cervix. Barriers such as a low economy, cultural inheritances, lack of awareness, lack of females in the testing centres *etc*., were identified. **Conclusion:** All the health care providers and primary health care centres should be facilitated with the Pap smear testing facility.

INTRODUCTION: A persistent infection with a high-risk oncogenic human papilloma virus (HR-HPV) is involved in almost all cases. HPV infection is very common in young women with early sexual activity, with a peak before 25 years, usually without clinical consequence. In nearly 10% of cases, this infection persists and is associated after 5 to 10 years with lesions that may regress, remain stable or progress to a higher grade and invasive cancer. Evolution of cervical intraepithelial neoplasia (CIN) to invasive cancer is slow, about 10 to 20 years for an immuno-competent woman.

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This slow progression allows an effective secondary prevention based on screening and treatment of precancerous lesions, using cervical cytological testing according to Papanicolaou (Pap smear or Pap test), visual inspection of the cervix with 3-5% acetic acid (VIA), or more recently HPV DNA testing. Immuno-suppression, especially due to human immunodeficiency virus (HIV) infection, is a predisposing factor for persistent infection with HR-HPV and the development of squamous intraepithelial lesions (SIL).

High HIV viral loads and low CD4 counts are associated with a higher risk of HR-HPV infection and cervical abnormalities. The risk of recurrence or progression of cervical lesions is 4-5 times higher in women living with HIV. Infection with one of the 15 HR-HPV genotypes is significantly more common in HIV-infected women, while the distribution of low-risk oncogenic HPV is not affected by HIV status.

This reflects a higher propensity of HR-HPV in determining persistent infections [1, 2].

Aim: To create awareness among the public about cervical cancer and, encourage them effective screening.

METHODOLOGY:

Study Design: A prospective questionnaire based survey.

Study Period: This study was conducted from January to June 2016 *i.e*. for a period 6 months.

Study Site: In Guntur

Materials: Consent form, data collection form-I, data collection form-II, awareness aids - patient information leaflets, posters, multimedia, questionnaire forms-I and II, risk assessment questionnaire, feedback form.

Inclusion Criteria: All women aged above 14 yrs for awareness.

Exclusion Criteria: Women with total hysterectomy. Women with a positive history of cervical cancer.

Data Collection: The work is planned to carry out as following:

To include people satisfying the criteria by designing a patient data collection form and a questionnaire to collect all the data required for the study, which lead to motivate the women for participation in the screening program had identified several barriers in receiving screening tests like Pap-smear.

Study Method: The study was conducted In Guntur. A pilot study was conducted for the readability and understanding of the questionnaire and patient information leaflet. A data collection form was developed in which all the details of the patients are noted. Patients were given adequate knowledge on cervical cancer. Subjects were provided with patient information leaflets on cervical cancer. Patients, as well as illiterates who did not wish to participate in the study, were also be provided with help of information leaflets and videos.

A self-administered questionnaire was given to the subjects who have given their willingness to participate in the study. A risk assessment questionnaire was distributed to the subjects after assessing the self-administered questionnaire. Risk assessment to the subjects who were married, completed family or patients with a positive family history. Risk assessment was done by using an online risk assessment tool and patients shall be informed as to what level they were at risk.

Patients were advised for effective screening procedures. Consent was taken from subjects who underwent screening. Patients who understood that they were at risk were advised for screening which was further conducted by the physician and counselled about their lifestyle modifications. A feedback form was distributed randomly to find out the better outcomes of the study. The difference in the knowledge levels was observed. The data was analyzed using a descriptive analysis, Likert's scale, Chi-Square, and P-test [3, 4].

Ethical Approval: Ethical approval was taken with a no: 10 from Guntur Medical College.

RESULTS: The following are the barriers identified among females from the study population.

TABLE 1: SOCIO DEMO GRAPHIC DETAILS OF THE RESPONDENTS

Age group	Occupation	Marital status	Total	Percentage %
16-20	Students, daily wagers	Unmarried, married	256	36%
20-30	Students, employee, homemakers, daily wagers	Unmarried, married	138	19.4%
30-40	Employee, homemakers, daily wagers	Married	70	9.8%
40-50	Employee, homemakers, daily wagers	Married, widows	120	16.8%
50-60	Homemakers, daily wagers	Married, widows	117	16.4%
60-70	Homemakers, daily wagers	Married, widows	10	1.4%

Table 1: Among 711 females most of them were students 286(40.2%) with age group of 16-20 years were 256(36%) while some of married population were in the same age group with 60 there occupation was daily wages and rest of them were unmarried as they all were doing their studies *i.e*., 196. 20-30 age group were 138 (19.4%) occupying all the students, 13 members were homemakers, 18 were doing jobs, as well as 19 were daily wages, most of the students were 90 members unmarried and 48 married, whereas largest employs 43 were lying in the age group 30-40 were in total of 70 (9.8), 9 home makers and 21 daily wages. 40-50 years age group with a total of 120 (16.8%) consists of equal distribution, where as in 50-60 years age group were having high amount of homemakers with 83 of home-makers and remaining 34 were daily wages some of them were married and widowed with a total of 117(16.4%), in 60-70 years age group were total 10(1.4%) high in amount of widows [5, 6].

TABLE 2: FREQUENCY DISTRIBUTION OF SYMPTOMS AND SCREENING PROCEDURES AMONG WOMEN

Age	Symptoms			Pap smear underwent		Percentage %
	Yes	No	Total	Yes	No	
20-30	12(25%)	66	78	12	66	22.0
30-40	8(16.6%)	87	95	8	87	26.91
40-50	9(18.7%)	51	60	9	51	16.9
50-60	6(12.5%)	59	65	6	59	18.41
60-70	13(27%)	42	55	13	42	15.51
Total	48(100)	305	353	48	305	100

Table 2: Out of 353 members, who are included in screening 305 members do not have any symptoms pertaining to the suspecting disease. Out of 353 members, 78 members (22%) belongs to the age group of 20-30, 95 members (26.9%) belongs to the age group of 30-40, 60(16.9%) members belong to 40-50 years, 65(18.41%) belongs to the age group of 50-60 years and 55(15.51%) members belong to the age group of 60-70 years. The risk assessment was done for 48 patients were positive with the symptoms. Out of these 48 patients, 12(25%) members of the age group of 20-30 years have undergone pap-smear and 66 members have not undergone pap -smear. Among 8(16.6%) members of the age group of 30-40 have undergone pap-smear and 87(26.91%) members have not undergone pap-smear. Among 9(18.7%) members who have undergone pap-smear belong to the age group of 40-50 years and 51(16.9%) members have not undergone the pap-smear test. Among 6(12.5%) members who undergone the pap-smear belong to the age group of 50-60 years, and 59 members have not undergone pap-smear. 13(27%) members have undergone for pap-smear test belongs to the age group of 60-70 years and 42(15.51%) members have not undergone pap-smear [7, 8].

Table 3: Among the females 353, 48(13.5%) have attended to the screening. Certain symptoms such as vaginal discharge 3(6.2%), post coital bleeding 2 (4.1%), menstrual irregularities 9(18.7%), post-menopausal bleeding 6(12.6%), hormonal imbalances 11(22.9), other complaints such as PCOS, infertility, back pain, lower abdominal pain 17 have been observed [9].

TABLE 3: FREQUENCY DISTRIBUTION OF SYMPTOMS AMONG WOMEN

	Number	Percentage %
Vaginal discharge	3	6.2
Post coital bleeding	2	4.1
Menstrual irregularities	9	18.7
Post-menopausal bleeding	6	12.6
Hormonal imbalances	11	22.9
Other complaints	17	35.4
Total	48	100

Table 4: Among the 48 women who attended the screening, 23(47.9%) were identified with various symptoms. They have been categorized based on the age groups. It was found that between the age group of 20- 30 years, 2(4.1%) and 1(2.0%) in the age group of 40 -50 years. A total of 3(6.25%) were identified with papillary endo-cervicitis. Among 30-40 years, 1(2.0%), 3(6.2%) in the age group of 50-60 years and 1(2.0%) in the age group of 60-70 years. A total of 5(10.4%) were known to be bacterial vaginosis. A total of 4(8.25%) were identified with atrophic inflammatory changes. Between the age group of 20-30 years 2(4.1%), and 1(2%) each was identified among the 40-50 and 60-70 years. Among 30-40 years age group 3(6.2%), 1(2.0%) in the age group of 40-50, 2(4.1%), in the

age group of 50-60 a total of 6(12.5%) were identified. No epithelial abnormalities were observed candidial cervicitis. Between the age group of 40-50 a total of 2(4.1%). Among 50-60 years of age group, 1(4.1%) were observed with both dysplastic squamous epithelial cells and squamous cell carcinoma differentiated, while in 60-70 age group also identified with the same number *i.e.*, 1(4.1%) was known to be squamous cell carcinoma undifferentiated [10, 11].

TABLE 4: FINDINGS OF PAP SMEAR AMONG DIFFERENT AGE GROUPS IN WOMEN

Cytological diagnosis on pap smear	20-30	30-40	40-50	50-60	60-70	Percentage %
Papillary endo-cervicitis	2(4.1%)	-	1(2.0%)	-	-	6.25
Bacterial vaginosis	-	1(2.0%)	-	3(6.2%)	1(2.0%)	10.41
Atrophic smear inflammatory changes	2(4.1%)	-	1(2.0%)	-	1(2.0%)	8.33
Inflammatory smear	-	3(6.2%)	1(2.0%)	2(4.1%)	-	12.5
Epithelial abnormalities	-	-	-	-	-	00
Candidial cervicitis	-	-	2(4.1%)	-	-	4.16
Dysplastic squamous epithelial cells	-	-	-	1(2.0%)	-	2.08
Squamous cell carcinoma differentiated	-	-	-	1(2.0%)	-	2.08
Squamous cell carcinoma undifferentiated	-	-	-	-	1(2.0%)	2.08

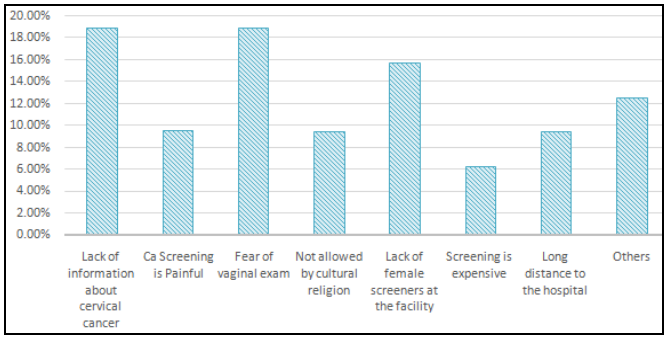

FIG. 1: BARRIERS TO UPTAKE OF SCREENING

Fig. 1: Among 353 members, 48 patients had attended Screening. Among 353, 305 members had not attended screening due to the barriers. Maximum number of patients had not attended to screening due to lack of information about cervical cancer (19%). Few people believed that screening is expensive [12, 13].

DISCUSSION: Out of 711 respondents a total of 286 numbers of students participated in the survey. Among them group of 16-20 years were 256(36%), while 20-30 age group were 138(19.4%), 30-40 were in total of 70(9.8), 40-50 years age group with a total of 120(16.8%), where as in 50-60 years age group were a total of 117(16.4%), in 60-70 years age group were total 10(1.4%) were participated in the study [14, 15]. Among them 353 members, who are included in screening 305 members do not have any symptoms pertaining to the suspecting disease. Out of 353 members, 78 members(22%) belongs to the age group of 20-30, 95 members (26.9%) belongs to the age group of 30-40, 60(16.9%) members belong to 40-50 years, 65(18.41%) belongs to the age group of 50-60 years and 55(15.51%) members belong to the age group of 60-70 years. The risk assessment was done for 48 patients were positive with the symptoms. Out of these 48 patients, 12(25%) members under the age group of 20-30 years have undergone Pap smear and 66 members have not undergone Pap smear.

Among 8(16.6%) members under the age group of 30-40 have undergone Pap smear and 87(26.91%) members have not undergone Pap smear. Among 9(18.7%) members who have undergone Pap smear belong to the age group of 40-50 years, and 51(16.9%) members have not undergone Pap smear test. Among 6(12.5%) members who undergone the Pap smear belong to the age group of 50-60 years, and 59 members have not undergone Pap smear [16]. 13(27%) members have undergone for Pap smear test belongs to the age group of 60-70years and 42(15.51%) members have not undergone Pap smear.

Among the females 353, 48(13.5%) have attended to the screening. certain symptoms such as vaginal discharge 3(6.2%), post coital bleeding 2 (4.1%), menstrual irregularities 9 (18.7%), post-menopausal bleeding 6(12.6%), hormonal imbalances 11(22.9), other complaints such as PCOS, Infertility, back pain, lower abdominal pain 17 has been observed Among them 48 women who attended the screening, 23 (47.9%) were identified with various symptoms. They have been categorized based on the age groups. It was found that between the age group of 20- 30 years, 2(4.1%) and 1(2.0%) in the age group of 40 -50 years. A total of 3(6.25%) were identified with papillary endo-cervicitis.

Among 30-40 years, 1(2.0%), 3(6.2%) in the age group of 50-60 years and 1(2.0%) in the age group of 60-70 years. A total of 5(10.4%) were known to be bacterial vaginosis. A total of 4(8.25%) were identified with Atrophic inflammatory changes. Between the age group of 20-30 years 2(4.1%), and 1(2%) each was identified among the 40-50 and 60-70 years.

Among 30-40 years age group 3(6.2%), 1(2.0%) in the age group of 40-50, 2(4.1%) in the age group of 50-60. A total of 6(12.5%). No epithelial abnormalities were observed. Between the age group of 40-50 a total of 2(4.1%). Among 50-60 years of age group 1(4.1%) were observed with dysplastic squamous epithelial cells. Squamous cell carcinoma differentiated in between age group of 50-60 were identified with 1(4.1%). Among age group of 60-70 years 1(4.1%) were known to be squamous cell carcinoma undifferentiated. Our study mainly focused on the barriers in obtaining screening procedures [17]. It was also identified that even though most of the married women showed interest towards screening, they could not attend screening due to the presence of barriers such as low economy and cultural inheritance.

Main barriers were observed highest due to lack of knowledge and fear with vaginal examination were lying on same amount with 19%, but second largest barrier was lack of female screeners at facility which was 15%, others such as pessimism about the disease as well as the procedure also believed it was a sin that was early detection was next foremost reason with 12%. Few people also complained about the associated cancer screening is painful, not allowed by cultural religion and also long distance to hospital were rating with 9%, least of them was 6% people thinking that screening is expensive. As it is quite leading cancer which increasing mortality each and every person should know about the preventive measures which will reduces the risk of getting this cancer [18].

CONCLUSION: There is a significant difference between person to person due to various reasons with increase in the deaths of many patients due to HPV, although it is having a vaccine. It was also identified that even though most of the married women showed interest towards screening, they could not attend screening due to the presence of barriers such as low economy and cultural inheritance. Few people also complained about the associated pain and fear about the disease. With the aim of promoting health and to prevent from the cervical cancer all the study population were educated by using various methods such as video clips, patient information leaflets and also through the oral presentation where pictures were also used for creating extensive and effective knowledge [19]. The results of this study will provide baseline data about barriers of screening cervical cancer and factors associated with the cervical cancer. This study was abundantly carried among students. It will be more beneficial to plan studies with larger sample size. It was also observed that most of the population have understood about the risk factors and symptoms associated with cervical cancer [19].

Out of 711,427 members (60%) are not aware of the HPV vaccine whereas, 284 members (39.9%) were aware of HPV vaccine. Early detection can prevent and effectively lower the mortality rate. In developing countries like India where most of the people are below the poverty line, government should take an initiative to control and prevent these types of diseases. It should be initiated that women more than 30 years should undergo test for at least once in three years. People with a positive family history should take an initiative to take vaccines as well as screening and follow other life style modifications. There is an urgent need to develop government policies in this regard and to generate widespread awareness about cervical cancer. Furthermore, larger studies in this regard is a need of the hour for prevention and control of cervical cancer.

Limitations:

- Due to the presence of various barriers, many of the women who might be at risk did not attend for screening.
- Subjects below 14 years with a positive family history were not assessed for risk [18, 19].

Future Directions:

- ✓ Epidemiological studies can be carried out.
- ✓ More studies can be conducted on preventive measures.

- ✓ Any age group more than four years sexual practice are advised for effective screening procedures [20].

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CONFLICT OF INTEREST: Nil

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