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Original Research Article

A community based study to determine incidence of cervical cancer and willingness of women to participate in cervical cancer screening program in Navsari, Gujarat, India

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ABSTRACT

Background: Carcinoma of the uterine cervix is a major health problem faced by the Indian women. Regular cervical cytological examination by all sexually active women can prevent the occurrence of carcinoma cervix. Early detection of cervical cancer is possible with Pap smear tests.

Methods: Women above 25 years of age, living in study area and want to participate in study were included. Total 2352 women were enrolled in study. House to house visits were conducted in all the village area by using simple random sampling method. Information about cervical cancer was given. Pap test for cervical cancer screening was carried out by gynaecologist. Cytological examination and confirmation was done by pathologists.

Results: A total of 3001 women had attended village level IEC session and out that, 2352 (78.4%) women took part in the screening program. Out of these 2352 women, 2007 women (85.3% compliance) had given consent for physical cervical examination and Pap smear. The incidence of cervical cancer was 0.2% on the basis of clinical examination and biopsy.

Conclusions: Higher compliance for undergoing vaginal examination and Pap test shows the positive health seeking behaviour of the women but for that, strong IEC and sensitization about the disease must be done to improve the participation. Sensitivity of Pap test was poor and couldn't find true positive cases.

Keywords: Biopsy, Compliance, Cervical cancer, Incidence, Pap test, Screening

INTRODUCTION

Carcinoma of the uterine cervix is a major health problem faced by the Indian women, and every year, approximately 120,000 women develop this disease.¹ India accounts for 15.2 per cent of the total cervical cancer deaths in the world.² Although the incidence of carcinoma cervix has declined in the urban population, in the rural areas it continues to be highly prevalent.³

Regular cervical cytological examination by all sexually active women can prevent the occurrence of carcinoma cervix.⁴ Early detection of cervical cancer is possible with Pap smear tests. The proportion of women who undergo Pap smear testing ranges from 68% to 84% in developed countries as compared to India where the rates range from 2.6% to 6.9% among women in communities.⁵⁻⁸ Human Papilloma Virus (HPV) is proven to be a necessary but not sufficient cause of cervical cancer. The

risk factors known to increase the incidence of cervical cancer are age, low socio-economic status, poor personal hygiene, lack of education, multiple sexual partners, early marriage, early child birth, higher parity and long-term use of hormonal contraceptive.⁹ A leading study from Canada revealed that the disease in the in situ stage (CIN III), on an average takes about 10-12 years to enter in the invasive stage i.e. the time gap between detectable pre clinical phase and the clinical phase is quite long so that it provides enough opportunity to administer management when complete cure is possible.¹⁰ Hence it is justified to keep the cervical cancer as one of the priority areas for cancer control activities.

METHODS

The present community based cross sectional analytical study was carried out from 1st April 2018 to 31st March 2019 with the objectives to determine willingness of women to participate in such kind of screening procedure and to determine incidence of Cervical Cancer amongst women residing in the study area. 28 Villages which are the field practice area of Gram Seva Trust, Kharel Hospital, District - Navsari were included. Women above 25 years of age and wanted to participate in screening program were included. Women who didn't give consent to participate in study were excluded. The consenting participants who satisfied the inclusion and exclusion criteria were enrolled in the study. Taking into account all such factors of feasibility the total sample size obtained was 2352. A semi-structured questionnaire was prepared in accordance with the study objectives. Data entry was done using Microsoft excel software 2010 version. Analysis of data was done by using SPSS version 20 software. Percentage analysis was done for socio demographic factors. Statistical tools like means, proportions were used appropriately. Study was divided in to 4 phases for better results and good understanding of the participants.

In 1st phase by using simple random sampling method, house to house visits were conducted in all the village area and IEC meetings at the convenient place were organized by the supervisors of the institute with the help of field level workers. In 2nd phase health talk was delivered at these meetings and information on risk factors, signs, symptoms, complications, precautions to be taken and steps to prevent Cervical cancer was given. A part from health talk women were also informed about screening camp at their village's Primary Health Center on specified date. In the 3rd phase, after explaining the procedure and taking informed consent, pelvic examination and Pap test for cervical cancer screening was carried out by gynecologist. Cytological examination of slides and confirmation was done by pathologists.

In 4th phase, women who had any complain were referred to Gram Seva Trust sarvajanic hospital, Kharel for further management. Detail history of the patients was taken. Thorough pelvic examination was done.

Pelvic examination

- Inspection of the vulva for any lesion or discharge
- Vagina, cervix and fornices were inspected for appearance of cervix, any erosion, ulcer, growth, any discharge and bleeding during physical examination.

RESULTS

A total of 3001 women had attended village level IEC session and out that, 2352 (78.4% compliance) women took part in our screening program. Out of which 31% belonged to the age group of 36 to 45 years, 27.7% belonged to 25-35 years of age and 21.1% of women belonged to 45-55 years of age. According to the modified Kuppaswamy socioeconomic scale, 80.9% of the study population belonged to the upper lower class, 10.6% to lower class, 7% to the lower middle class and 1.5% belonged to the upper middle class. The literacy profile showed 27.5% illiterate while 32.6% having a primary education, 23.5% having secondary education, 10.7% had studied up to higher secondary, 5.4% were graduated.

Table 1: Socio demographic profile of study population.

	No. of respondents	Percentage	
Age (in years)	< 25	76	3.2%
	25-35	651	27.7%
	36-45	729	31.0%
	46-55	496	21.1%
	56-65	321	13.7%
	> 65	78	3.3%
Occupation	Business	11	4.7%
	Farming	1160	49.7%
	Homemaker	1082	46.3%
	Job	78	3.3%
	Student	3	0.1%
Education	Graduate	124	5.4%
	Higher secondary	246	10.7%
	Secondary	537	23.5%
	Primary	743	32.6%
	Illiterate	629	27.5%
Marital status	Married	1879	83.5%
	Widow	338	15.0%
	Unmarried	18	0.8%
	Divorce	14	0.6%
Socio economic status	Lower	218	10.6%
	Lower middle	144	7.0%
	Upper lower	1655	80.9%
	Upper middle	30	1.5%

Majority i.e. 49.7% among the study participants were engaged in farm labour and 46.3% were housewives, 4.7% women were doing some sort of business, 3.3% were doing job and 0.1% were studying. Most of the women were married (83.5%) with others being widowed (15%), unmarried (0.8%) and divorced (0.6%). 17.6% women got married before the age of 18 years and the maximum age at marriage was 35 years. 30.6% had a parity of 3 or more children (Table 1).

Table 2: Compliance of women attending screening camps.

Indicator	Number	Compliance
Total women attended village meetings	3001	
Total women attended screening camps	2352	78.4%
Total Pap smear taken	2007	85.3%

Table 3: Results of Pap test and history of vaginal discharge.

		No. of Respondents	Percentage
Pap test results (Total 2007)	Negative (NILM)	1828	91.1%
	Repeat the test	155	7.7%
	Atrophic changes	24	1.2%
Women with complain of vaginal discharge	No	1781	75.7%
	Yes	571	24.3%
Type of vaginal discharge	Bloody	7	1.2%
	Curdy	118	20.7%
	Foul smelling	60	10.5%
	Others	2	0.4%
	Watery	366	64.1%
	Yellowish	18	3.1%

Out of 2352 women, 2007 women (85.3% compliance) had given consent for physical cervical examination and Pap smear (Table 2). 571 (24.3%) women complained of vaginal discharge. After asking about the nature of discharge 64.1% had watery discharge while 20.7% had curdy, 10.5% had foul smelling, 3.1% had Yellowish, 1.2% had bloody and 0.4% had other type of discharge. 1.1% women had history of discharge of blood after sexual intercourse.

Among 2007 Pap smear taken, 1828 (91.1%) results were Negative for Intraepithelial Lesions or Malignancy (NILM), 24 (1.2%) slides had atrophic changes and 155 (7.7%) slides required to repeat the test. None of the slide had positive carcinomatous changes. But 4 women were

found to have cervical carcinoma on the basis of clinical examination and biopsy (Table 3).

In present study the Incidence of cervical cancer was 4 out of 2007 (0.2%) women screened.

DISCUSSION

In present study the compliance and willingness of undergoing Cervical examination and Pap test was 85.3% while in Patra S et al study, 24.1% women were willing to go for pap test examination.¹¹ In contrary to that 78.8% compliance was seen in Bhagwan N et al study.¹² And 94.6% women had undergone pap test examination in Sherpa A et al study.¹³ According to WHO one of the requirements of successful screening program is to ensure high levels of coverage (80% or more) of the target population to be screened.¹⁴ In study done by Aswathy et al, screening programs met with low rates of compliance i.e. 6.9%, due to many factors like stigma associated with the screening process, fear of procedure, lack of awareness, etc. and reported that appropriate knowledge on cervical cancer was a critical element in determining whether women would undergo a Pap test or not.⁸ However no such issues were faced in present study. In initial camps the number of women attending screening camp was low therefore extensive village level IEC meetings and sensitization about the diseases were held and overall higher compliance rate was might be due to these activity. Thus we can say that IEC and Sensitization plays an important role in cervical screening program.

In present study, 17.6 % women got married before the age of 18 years. Early marriage indicates the earlier onset of sexual activity and prolonged sexual life. Thus, more chances of HPV infection and higher incidence of cervical carcinoma. In the study related to age at marriage and cervical cancer incidence, Prabhakar AK et al concluded younger age of marriage is clearly a risk factor for carcinoma cervix.¹⁵ In the present study 30.6% had a parity of 3 or more children. A study by Muñoz N et al concluded high parity increases the risk of squamous-cell carcinoma of the cervix among HPV-positive women.¹⁶ Therefore, a general decline in parity might partly explain the reduction in cervical cancer, recently seen in many countries. In the study 24.6% women had complained of vaginal discharge. This can be attributed to poor genital hygiene and presence of sexually transmitted diseases (STDs).¹⁷ Some of the STDs may also act as precursors for cancer cervix, thus may require prompt treatment.¹⁸

In present study among 2007 Pap smear examination, 1828 (91.1%) results were Negative for Intraepithelial Lesions or Malignancy (NILM), 24 (1.2%) slides had atrophic changes and 155 (7.7%) slides required to repeat the test. Surprisingly, none of the slide had dysplastic or positive carcinomatous changes. Similarly in Yasmin J et al study, there was no evidence of cervical dysplasia or cancer cervix among the screened population.¹⁹ However in the study 4 cases had carcinomatous changes and diagnosis of these

cases was made on the basis of clinical examination done by gynaecologist and biopsy reports. In study done by Arun R et al the Pap smear positivity rate was 3.6%.²⁰ While in Ramesh N et al study 7% of the women had dysplastic smears which was comparable to Shamima Y et al study and 12.7 % prevalence was seen in Mhaske M et al study.²¹⁻²³ While in Thumojju et al study 13.9% samples were having abnormal pap cytology.²⁴ In Sharma et al study, 4.67% showed carcinoma in-situ and 1.4% showed high grade malignancy.²⁵ On the basis of results in the study, it can be said that role of thorough clinical examination should be considered as 1st line screening process as 4 NILM cases of Pap smear were diagnosed to have cervical malignancy.

CONCLUSION

Higher compliance for undergoing vaginal examination and Pap test shows the positive health seeking behaviour of the women but for that, strong IEC and sensitization about the disease must be done to improve the participation. Unlike other studies, sensitivity of Pap test was poor and couldn't find true positive cases. So, to overcome false negative cases it is recommended that screening must be done by a person trained to observe the physical cervical changes. In spite of being a preventable cancer with various screening modalities, the incidence of cervical cancer is very high in developing countries. The study recommends that such types of screening camps and programs must be held more frequently in order to curb the menace due to cervical cancer.

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