Original Research Article

A study to detect preinvasive and invasive cancer

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A R T I C L E   I N F O

A B S T R A C T

Introduction and objectives: Cervical cancer is the 2nd leading cause of female cancer death in India. The Papanicolau (PAP) smear is the most successful screening test for carcinoma, since its introduction the national death from cervical cancer has dropped by 70%. In rural India, pregnancy may be the only reason for women to undergo PAP smear examination to rule out any associated cervical lesions. Hence, our study based on cervical cancer screening will help in achieving the objectives of National Cancer Screening Programme.

Materials and Methods: 137 antenatal cases were taken from the department of Obstetrics and Gynaecology of our institute. It was a cross-sectional study with 18 months duration.

Results: Among 137patient studies, mean age under the study was 24.17years, most of them were in their third trimester.16.05% cases were younger than 20 years of age and large proportion of 32.11% was between 21-23 years of age. Most of the subjects (75.9%) were married above 18 years and 48.2% were primipara, 56.2% belongs to low socioeconomic status, 45.3% were uneducated and only 32.1% were aware of pap smear. None of the pap smears reported any intraepithelial lesion.

Interpretation and Conclusion: Women having cervical lesions during initial screening were asked to revisit for further detailed evaluation. In cases of high grade dysplasia or in the presence of cervical cancer treatment should be initiated at the earliest. Hence, our study based on cervical screening programme using PAP smears will help to sensitize and create awareness among the rural population regarding prevention of carcinoma of cervix and thereby contribute towards the National Cervical Screening Programme.

1. Introduction

Carcinoma cervix is the most common genital tract cancer encountered in developing countries accounting for 80% of world cases, 18% are from India.[1] Every year in India, 1,22,844 are diagnosed with diagnosed with cervical cancer and 67477 die from the disease.[22] India has a population of 432.2 million women aged 15 years and older who are at a risk of developing cancer.Incidence rates vary from 0.1 to 12 per 10000 pregnancies.[3] Cervical cancer is the most common malignancy diagnosed during pregnancy comprising about 70%.

Risk factors for cervical cancers includes 1) women with low socio-economic status 2) Sexually active at a younger age 3) Multiple sexual partners 4) Poor genital hygiene 5) Use of oral contraceptives.[4] Cervical cancer screening programmes implemented on developed countries over the past fifty years have significantly contributed to the reduction of cancer cervix related deaths. However, high incidence and mortality rates continue in developing counties due to the lack of screening programmes. In rural India, pregnancy and a request for antenatal care may be the only reason for a woman to consult a health professional. Most cervical abnormalities in pregnancy are discovered as a result of routine screening at the initiation of prenatal care.[5]

Hence screening by PAP smear during pregnancy useful to screen more number of women in reproduction age group, offers unique and efficient way to detect early cervical changes and hence take timely action.[6] Even though PAP

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smear and its efficacy as a screening aid for cervical cancer has been extensively studies over decades, studies which are done during pregnancy are not many.

2. Aims and Objectives

1. To screen pregnant women for pre invasive lesions of cervix using PAP smear.
2. To know the prevalence of cervical lesions during pregnancy in rural population of Kolar.

3. Materials and Methods

A study of 137 antenatal women.   Antenatal women of 14 weeks to 40 weeks of gestational age attending outpatient department for antenatal care in our institution during the study period.   General clinical examination and complete obstetric examination were done. Necessary investigations such as PAP smear was taken from the squamocolumnar junction of cervix, after obtaining an informed consent. Sample smeared eventually on the slide and fixed immediately with cytofix spray to avoid air dry. Sample is stained using the PAP stain.   Excess of dye is washed under water at slow stream. PAP smears was reported as per modified Bethesda Classification (2014) and reporting was given as normal smear, inflammatory smear, ASC-US, ASC-H or LSIL, HSIL & AGC.

Exclusion criteria includes a) those pregnant women who have been previously diagnosed with cervical pathology, b) unexplained vaginal bleeding, c) active labor with premature rupture of membranes and e) h aving history of recent coitus or using any vaginal medications.

3.1. Statistical Analysis

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of frequencies and proportions. Chi-square was used as a test of significance. Continuous data was represent as mean and standard derivation. P value <0.05 was considered as statistically significant.

4. Results

Table 1 shows distribution of cases according to knowledge of PAP smears - 37.9% of the cases were not aware of routine and evidenced base screening for cervical cancer. They were unwilling for pap smear to be done, as they were concerned about well being of the fetus.

Table 2 shows distribution of cases according to Academic Qualification - 45.3% of the study subjects were uneducated and 31.4% of the women received education up to primary school followed by secondary school education (11.7%) and 11.7% were graduates. Women who were graduated were aware of screening tests for cancer cervix.

Table 3 shows distribution of cases according to occupation - 62% of study subjects were agricultural workers followed by home makers (24.8%), 9.5% were in construction job and 2.2% were teachers and 1.5% were tailors with limited knowledge about PAP smear and cervical cancers.

Table 4 shows distribution of cases according to socioeconomic status - 56.2% belonged to lower socio-economic status as they constituted 77 of the total 137 subjects.

Table 5 shows distribution of cases according to age of marriage - 88(64.2%) of the women were married at the age of 19-21 years and 24.1% women were married at 16-18 years of age.

Table 6 shows distribution of cases according to prior contracepetion use – 52.6% of subjects were not using contraception and 24.1% were using barrier method for contraception.

Table 7 shows appearance of cervix on speculum examination - Our group no growth were seen on vaginal examination of cervix. 85.45% having healthy cervix and vagina .. 5.1% having minimal white discharge and curdy white discharge present in 6.6% cases. Erosion was seen in 2.9% of the cases.

Table 8 shows distribution of cases according to cytology report- 75.2% of the patients are having normal smear and were 34 women had inflammation (24.8%). None of the women showed abnormal smears in our study.

Table 9 shows distribution of smears in primigravida and multigravida – 44.7% of primigravida and 55.3% of multigravida have normal smears. 58.8% of primigravida and 41.2% of multigravida have inflammatory smears. No malignant smears were detected.

Table 1: Distribution of cases according to knowledge of pap smears

Knowledge	No of cases	Percentage
Aware	44	32.1%
Not aware	93	67.9%
Total	137	100%

Table 2: Distribution of cases according to education

Education	No of cases	Percentage
Uneducated	62	45.3%
Primary	43	31.4%
Secondary	16	11.7%
Graduate	16	11.7%
Total	137	100%

5. Discussion

Cancer cervix is both preventable and curable disease. It is preventable by cervical screening and curable if identified

Table 3: Distribution of cases according to education

Occupation	No of cases	Percentage
Agriculture	85	62%
Home maker	34	24.8%
Constructional workers	13	9.5%
Tailor	2	1.5%
Teacher	3	2.2%
Total	137	100%

Table 4: Distribution of cases according to socioeconomic status

Socioeconomic status	No of cases	Percentage
Lower class	77	56.2%
Lower-middle class	21	15.3%
Middle class	19	13.9%
Upper class	15	11.7%
Upper middle class	4	2.9%
Total	137	100%

Table 5: Distribution of cases according to age at marriage

Age (years)	No of cases	Percentage
16-18	33	24.1%
19-21	88	64.2%
22-24	13	9.5%
25-27	3	2.2%
Total	137	100%

Table 6: Distribution of cases according to prior contraception use

Contraception	No of cases	Percentage
None	72	52.6%
Barrier	33	24.1%
IUCD	17	12.4%
OCP	15	10.9%
Total	137	100%

Table 7: Appearance of cervix on speculum examination

Per speculum examination	No. of cases	Percentage
Cervix vagina healthy, curdy white discharge present	9	6.6%
Cervix and vagina healthy, minimal white discharge present	7	5.1%
Erosion	4	2.9%
Cervix and vaginal healthy	117	85.4%
Total	137	100%

Table 8: Distribution of cases according to cytology report

Cytology report	No. of cases	Percentage
NILM	103	75.2%
NILM with inflammatory smear	34	24.8%
Total	137	100%

Table 9: Distribution of smears in primigravida and multigravida

Parity	Cytology Report		Total
	NILM	NILM with inflammatory smear	
Primi	46	20	66
Multi	57	14	71
Total	103	34	137
	100.0%	100.0%	100.0%

at an early stage.[7] Screening cytology and early treatment constitute the sheet anchor of control of the disease. It is the third most common type of gynecological cancer in women world wide. It accounts for 15% of all malignancies in developing countries where women do not have access to cervical cancer screening and prevention programs it remains the second most common type of cancer.[8]

Indian contribution to cervical cases and mortality is 25.4% and 26.5% respectively. Majority of Indian women diagnosed with this disease have never been screened for this condition. Around 70% present in advanced stages due to absence of an organized cancer screening programme.

According to National Cancer Institute, strong risk factors include early age at first intercourse, history of multiple sexual partners, genital human papilloma virus infection (HPV) or other sexual transmitted disease (STD), and the presence or history of other genital tract abnormalities. One reason that many of these women do not get screened for cervical cancer is that they often don't view themselves as being at risk.[9] Available literature shows that women often participate in cervical cancer screening less regularly, leading to lesion that are found in more advanced are less curable stage. Many women do not want to discuss sexual issues due to embarrassment despite appropriate counseling. About 24.1% (33 of 137 women) of the women had early marriages.[10]

In our study the awareness of PAP smear is 32.1% whereas the study conducted by Manikkam B,[8] TamilNadu, awareness was 80.5%. Since ours is a tertiary rural care centre, the awareness of people residing in Kolar regarding PAP smear was less accounting for 32.1%.

In our study 24.8% showed inflammatory smear on cytological evaluation. All these women were further evaluated and treated appropriately. Even though most of the women has strong risk factors like low socioeconomic status uneducated, early marriages, none of the women showed abnormal smears in this study, could be due to most of the subjects were married above 18 years of age delaying their sexual debut, and majority of the cases were nullipara or primipara.

To screen women between ages of 35-64 at 10 years interval with the present resources. PAP smear testing units have been established under the post partum programme in some selected medical colleges. Analysis of the data from these shows that the large number of women visiting the

post partum units are young & less than 30 years of age.

The PAP smear test is the only screening test for cancer in the world, which had caused a decrease in occurrence and death from cancer. A Pap smear is a screening tool, not a diagnostic test, further evaluation is required when abnormal changes are detected. PAP smear is one of the cervical screening methods which is convenient, economical, painless, sensitive and widely accepted.

6. Conclusion

Carcinoma cervix is one of the deadly cause of mortality due to gynaecological cancer in India.[10] The aim of our study was to detect pre-invasive and invasive lesions of the cervix in woman who came for antenatal checkup. Even though there were no positive smears, 34 smeared patients had inflammatory smear.[1] Those detected to have inflammatory smears were treated appropriately. This interaction with patient sensitized them to the need for cervical cancer screening in future.[8] As our institute mainly caters to the rural population most of the female patients are from the remote and far-flung areas who seek medical care only during delivery and hence educating and creating awareness regarding cervical cancer screening among the rural population during pregnancy is highly essential and beneficial for a healthy and prosperous socio economic development of the community at large.

7. Acknowledgement

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9. Conflict of Interest

None.

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