CANCER CERVIX SCREENING AT RURAL CAMP

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ABSTRACT

BACKGROUND

Cancer cervix is preventable, yet it is the leading cause of morbidity and mortality among gynaec cancer. Various screening tests are available, but due to lack of awareness among many women they are not utilizing it. We wanted to determine the distribution of various cervical lesions in the selected rural population and determine effectiveness of visual inspection with Acetic acid-VIA screening test and to compare VIA with Pap smear

METHODS

This is a cross sectional observational study conducted at Mannur village of Thiruvallur District. 312 women between 30-65 years were included in the study. Screening test for cancer cervix was conducted in three rural camps. Written informed consent was obtained from all. After detailed history and clinical examination women underwent concurrent screening tests namely Pap smear and VIA. Women with abnormal VIA and Pap smear were counselled and offered further management.

RESULTS

Mean age of screened women was 42.4 years. Women over 60 years refused screening. 82% of women did not have symptoms related to cancer cervix. Mean age at first coitus was 21.6 years. 96% were parous women. Speculum examination revealed that cervix was normal in 41%, abnormal in 49.4%, and 9.6% had friable growth on the cervix. VIA was positive in 61% and in Pap smear 58% were Normal and 42% were abnormal. Biopsies were taken from VIA positive cases and from abnormal Pap smear. Biopsy report in 60.33 % was normal, in 26.44% report was LSIL, and in 11.57% report was HSIL and in situ in 1.45%. Cryosurgery was performed in 19 women and 8 women underwent TAH at Govt. Hospital. We were able to follow up and complete the treatment only for 27 (56.25%) women out of 48 women with abnormal biopsy report. VIA had a sensitivity of 75.41% and specificity of 90.6%, positive predictive value 68.94%, and negative predictive value of 95.37%. Pap smear had a sensitivity of 85.23%, specificity of 95.12%, positive predictive value of 66.77%, negative predictive value of 92.85%.

CONCLUSIONS

To reduce the burden of cancer cervix, VIA is a simple screening test which can be done easily in rural camp. When VIA combined with Pap smear, precancerous lesion detection rate will be increased. We were able to follow up and complete the treatment only for 27 (56.25%) women out of 48 women with abnormal biopsy report.

KEY WORDS

Cancer Cervix, Screening, Pap Smear, Cryosurgery, Visual Inspection with Acetic Acid

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BACKGROUND

Though cancer cervix is on the decreasing trend, still it continues to be a major health problem.⁽¹⁾ In recent years there is evidence that life style changes had occurred due to increase in economic standards and education status. Life span has increased, and aging population is increasing. These two factors are responsible for increase burden of cancer.⁽²⁾ Among gynaec cancers, cervix cancer is the leading cause for morbidity and mortality. In urban settings though there is declining trend in cervical cancer but contributes leading cancer in India. It may be due to better awareness for genital hygiene.

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Cancer cervix shows decline trend may be due to change in trend in age of the marriage family planning procedures, improvement in education and socio-economic status. In the year 1992- 93 marriage age at 18 years was 54.2 % but it was reduced to 44.5% in the year 2005- 06. Similarly, parity distribution was reduced from 3.39% in 1992- 93 to 2. 68% in 2005- 06, hence there is change in risk factors for cancer cervix⁽³⁾ Cancer cervix is a preventable condition and various screening methods like visual inspection with acetic acid, VIA or with iodine VILI, Papanicolaou cytology, and colposcopy are available, but mortality due to cancer cervix is not reduced in India. VIA is a low cost and feasible screening method. Various integrated Nationwide and Tamil Nadu State programme for prevention and control of cancer are available. Women with risk factors do not undergo for screening test due to lack of awareness. They do not undergo opportunistic screening too. Another reason for not undergoing screening test is due to lack of accessibility in rural area. In pap smear there are some problems like cost and availability of cytologist to report hence simpler techniques like VIA and VILI were developed. This test can be done in low resource setting, can be done by paramedical personal and can be done in rural camp.

Aims and Objectives

- To determine the distribution of the cervical lesions in the selected rural population.
- To determine the effectiveness of VIA as screening test.
- To compare VIA with Pap smear test.

METHODS

This was a cross-sectional observational study conducted at Mannur village of Thiruvallur district after obtaining IEC clearance and after informed consent. Three free camps were conducted at the interval of one month at community welfare centers. Each time 100 women from 30 years to 65 years belonging to low socioeconomic group were screened. Total of 312 women based on the prevalence of that area were screened after taking detailed history like white discharge PV, post coital bleeding, menstrual history, obstetric history, contraceptive history, family history and clinical evaluation, speculum examination and pelvic examination was done. Pap smear and VIA were done concurrently. Conventional Pap smear was done. Scarping was taken from squamocolumnar junction with Ayer's spatula and material taken is spread on the slides and fixed with Cytofix and it was transferred to cytologist. This is followed by VIA. On cervix 5 % acetic acid was applied with cotton swab and cervix was examined after 1-2 minutes in adequate light with hand lens. Both tests were done by gynaecologist who conducted the camps free of cost. Findings of VIA was noted. Pap smear was sent to cytologist. VIA and Pap smear sensitivity and specificity were compared. Women with abnormal findings in VIA and in Pap smear were referred to nearby Govt. hospital and were followed up with Colposcopic directed biopsy and appropriate management was done. Based on the report they were offered either cryosurgery or hysterectomy. Statistical mean calculation was done for age distribution. For VIA and Pap smear Sensitivity, Specificity, Positive predictive value and Negative predictive value was calculated.

RESULTS

Parity	Number	Percentage
Nulliparous	12	4%
1-2	115	37%
3-4	131	42%
>4	54	17%

Table 1. Parity Distribution

Four percent were nulliparous, 37 % belongs to para-1 -2, forty two percentage. Para 3-4 and 17% were Para 4 and above.

Speculum Examination Findings	Number	Percentage
Cx appeared Normal	128	41%
Mild Erosion	118	38%
Badly Eroded	66	21%
Frank Growth	3	Not included for analysis

Table 2. Speculum Examination Findings

Cervix was appearing Normal in 41%, mild erosion in 38% badly eroded cervix in 21%, rank growth in 3 cases and these three cases not included in the study.

VIA	No	Percentage
Positive	190	61%
Negative	122	39%

Table 3. Visual Inspection with Acetic Acid Report

Sixty-one percentage women were VIA positive and 39 %were VIA negative.

Pap Smear Report	Number	Percentage
Negative for Intraepithelial Lesion	181	58%
LSIL	94	30%
HSIL	35	11.5%
With features suspicious of invasion	2	0.5%

Table 4. Pap Smear Report

Normal and inflammatory Pap smear was seen in 58%, LSIL was reported in 30%, HSIL was reported in 11.5% and in situ was reported in 0.5%.

Biopsy Report	No.	Percentage	Treatment Offered
Normal	73	60.33%	Annual screening
LSIL	32	26.44%	19 underwent Cryotherapy
HSIL	14	11.57%	8-TAH
In situ	2	1.45%	Referred to cancer Institute

Table 5. Cervix Biopsy Report and Follow Up of 121 Women

	VIA	Pap Smear
Sensitivity	75.41	85.23
Specificity	90.6	95.12%
Positive Predictive Value	68.94%	66.77%
Negative Predictive Value	95.37	92.85%

Table 6. Specificity & Sensitivity of VIA & Pap Smear

Figure 1. Age Distribution

In the age group between 30-40 years 47.1%, in 41-50 years 31.7% and in 51-60 years 21.15 % were screened. Mean age of women screened was 42.40 years.

Figure 2. Age at First Coitus

In the age group between 15-18 years 44.1% had first coitus, in 19-20 years 38% and 21 and above 17.9 % Mean age at first coitus before 20 years was 21.6 years.

Figure 3. Complaints Among Women Screened

62.20 % of women did not have complaints related to cancer cervix, 37.8% of the women had complaints related to cancer cervix.

No significant reductions in the numbers of advanced cancers or deaths were observed in the cytologic-testing group or in the VIA group, hence studies are conducted to assess the effect of a single round of screening by testing for human papillomavirus (HPV) 4. Rate of cancer cervix among Muslims is less. This may be due to male circumcision which reduces the transmission of Human Papilloma Virus.(2)

Primary prevention with vaccination to unmarried women and for married women Pap smear screening to be insisted as per guidelines.⁽⁴⁾

In this study 30-40 years 47.1%, in 41- 50 years 31.7% and in 51- 60 years 21.15 % were screened (Fig. 1) women after 60 years refused for screening. Mean age of women screened was 42.4 years. Standard deviation of ± 19 . Mean age at first coitus was 21.6 years. 44.1% had first coitus before the age of 20 (Fig. 2) 96% were parous women (Table 1) Sixty two percentage of women did not have complaints related to cancer cervix (Fig. 3) Speculum examination revealed Normal appearing cervix in 41%, mild erosion in 38% badly eroded cervix in 21%, frank growth in 9.6% and these three cases not included in the study (Table 2) Sixty one percent were VIA positive (Table 3) Normal and inflammatory Pap smear was seen in 58%, LSIL was reported in 30%, HSIL was reported in 11.5% and In situ was reported in 0.5% (Table 4) VIA positive women and Pap smear abnormal women were taken to nearby Govt. hospital for Colposcopy directed biopsy. Out of 190 women 69 women (36.31%) were not willing for further follow-up. Out of 121 women 60.33 % biopsy report were normal, in 26.44% report were LSIL, in 11.57% report were HSIL, In situ 1.45%. (Table 5) Nineteen women with LSIL underwent Cryotherapy and 8 HSIL underwent-TAH, in situ cases were referred to cancer Institute. We were able to follow up and complete the treatment only for 27 (56.25%) women out of 48 women with abnormal biopsy report. VIA had a sensitivity of 75.41% and specificity of 90.6% positive predictive value 68.94% and negative predictive value of 95.37% Pap smear had a sensitivity of 85.23%, specificity of 95.12%, positive predictive value of 66.77%, negative predictive value of 92.85%

All 190 VIA positive and abnormal Pap smear women were taken to nearby Govt. hospital for biopsy. Out of 190 women 69 women (36.31%) were not willing and refused to come for further follow up. Out of 121 women 60.33 % biopsy report were normal, in 26.44% report were LSIL, in 11.57% report were HSIL and in two cases report was in situ were Pap smear report showed features of suspicious of invasion and referred to cancer institute We were able to follow up and complete the treatment only for 27 (56.25%) women out of 48 women with abnormal biopsy report. VIA had a sensitivity of 75.41% and specificity of 90.6% positive predictive value 68.94%. and negative predictive value of 95.37%. Pap smear had a sensitivity of 85.23%, specificity of 95.12%, positive predictive value of 66.77%, negative predictive value of 92.85%.

DISCUSSION

Cancer cervix is a preventable condition yet 88% of cancer cervix occur in low resource area Bradford L et al.¹ Cancer cervix is high among low socio-economic women because of poor hygiene, lack of awareness about symptomatology, screening programme and treatment. Hence this study was conducted to screen rural women for cancer cervix at three villages in Thiruvallur district. Thus, we made an attempt to reduce burden of the disease among rural women by screening them. In the present study age group screened was between 30-65 years which is similar to Usha Rani Poli⁵ et al study. In this study 37.8% women had cancer related complaints but in E. L. Low et al⁶ study 44% had symptoms

related to malignancy. Speculum findings in this study was mild erosion in 38% and badly eroded cervix 21% and frank growth in 9.6%. In Hend S. Saleh⁷ study commonest speculum examination finding was 38% chronic cervicitis.

In the present study VIA was done by gynaecologist and comparison was done between Pap smear and VIA with histopathology. Hedge et al⁸ study VIA positive is more than Pap smear VIA was positive in 27 (12%) patients and the Pap smear was abnormal in 26 (11.7%) Jeronimo J⁹ et al more women were tested positive by VIA than on the Pap smear (6.9% vs. 4.2%; $P = 0.0001$. In Sankaranarayanan R¹⁰ et al study pooled sensitivity, specificity, positive and negative predictive values of VIA were 80%, 92%, 10% and 99%, respectively and in this study sensitivity 75.41% and specificity of 90.6% positive predictive value 68.94% and negative predictive value of 95.37%. In Sinha et al¹¹ study Pap smear was found to be more specific than VIA, i.e., 72.9 versus 60%. Partha Basu et al¹² in his study concluded mass screening of population is based on their population participation and in this study 36.31% not participated in complete work up and were lost to follow up. We were able to follow up and complete the treatment only for 27 (56.25%) women out of 48 women with abnormal biopsy report. In the present study Pap smear had a sensitivity of 85.23%, specificity of 95.12%, positive predictive value of 66.77%, negative predictive value of 92.85%. Ajenifuja KO et al¹³ study concluded VIA is insensitive compared to Pap smear and in this study Pap smear is more sensitive compared to VIA. As both VIA and Pap smear were combined in our study and detection rate is increased as suggested by Sarian L et al.¹⁴ Study conducted by Saleh H et al¹⁵ concluded that screening the cancer cervix best option is to combine both VIA and Pap smear. Pap smear had a better sensitivity and specificity than VIA, VIA is comparable to Pap smear in sensitivity and specificity.

CONCLUSIONS

VIA can be done easily in camp. Pap smear requires additional cost and needs cytologist to report. When screening combined with VIA and Pap smear, sensitivity and specificity is high in detecting precancerous lesions of cervix. VIA test can be done in remote and in rural camp settings since it is simple, acceptable and accessible screening test. To increase the acceptance rate among rural women we have to empower the women and awareness should increase.

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