Original Article

Prevalence and Risk Factors for Cervical Intraepithelial Neoplasia in Patients attending Gynecological Outpatient Department of Tertiary Care Hospital

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ABSTRACT

OBJECTIVE: To determine frequency and risk factors for Cervical intra epithelial neoplasia (CIN) in patients screened with cervical cytology in gynecology outpatient department (OPD) of tertiary care hospital.

STUDY DESIGN: Cross-sectional description study.

PLACE AND DURATION: Gynecological outpatient department of Liaquat University Hospital Hyderabad, Sindh from July to December 2011.

SUBJECTS AND METHODS: All sexually active women between age group 15 to 65 visiting to gynecology OPD who fulfilled the inclusion criteria were enrolled in the study after taking the consent. Frequency and predisposing factors for CIN were analyzed after entering in predesigned proforma

RESULTS: During study period 32(4.5%) patients out of 700 were found positive for CIN. 297 patients (42.4%) had report positive for human papilloma virus. Mean age of patients positive for CIN were 37.5 ± 9.4 years. Nineteen (59.4%) patients were married before 15 years of age. Twenty nine (90.6%) patients belonged to poor socioeconomic status and eleven (34.3%) patients were smoker. All patients were muslims and house wives.

CONCLUSION: Though the frequency of CIN in current study was only 4.5% but infection due to human papilloma virus was much more (42.4%).Timely treatment and structured follow up of these patients can reduce carcinoma cervix in these patients.

KEY WORDS: Cervical intra-epithelial neoplasia, cervical cancer, screening.

INTRODUCTION

Cervical cancer is second most common form of cancer in women in world and most common form of cancer in women in developing countries.(1). This situation is compounded by the fact that in under developed countries 75% of affected women present in advanced stage, which is in contest to developed countries where 75% present in early stage and a cure can be expected. It is estimated that up to 500,000 new cases of invasive cancer of the cervix occur per year World Wide, leading to 273000 deaths, 80 % of these occur in under developed countries (2).

It is one of few malignancies in which premalignant condition exist and effective cytological screening method is available. Population based cytological screening and treatment in early stage can reduce morbidity and mortality associated with cervical cancer (3).It is recommended that all sexually active women between ages 20-60 years should have cervical smear every three years as it detect premalignant condition.(5) however discovery of Human papilloma virus (HPV) as a necessary factor for developing cervical cancer has led to introduction of HPV DNA testing and HPV vaccination which may improve the outcome of cervical cancer prevention(4) .Majority of cervical cancers in united states occur in women who have never been screened within past five years, additional cases occur in women who do not receive appropriate follow up after an abnormal pap smear(6). In England and Wales incidence of cervical cancer fell by 42% between 1988 and 1997.This is directly related to cervical screening programme(7) .Risk factors for cervical cancer are early sexual experiences, multiple sexual partners, non-use of condoms, cigarette smoking, HPV infection, use of oral contraceptives, low socio economic status and high parity(8). Male circumsion was thought to protect women from the development of cervical cancer because only 5.5% of circumcised men harbor HPV in comparison with 19.6% uncircumcised men(9).

An international study collect specimen from 32 hospitals in 22 countries proved that HPV DNA was present in 99.7% of cervical cases. HPV 16 was predominat-

ing(10). It has been proven that the degree to which the incidence falls in a population is related to the percentage of the population that has been screened and length of screened population.

In Pakistan population based incidence data is not available. There is no proper cervical screening programme in country. No accurate figure exists for prevalence and mortality due to cervical cancer in Pakistan. Karachi Cancer registry (KCR) and Jinnah Post graduate medical Centre (JPMC) have collected local data, which showed that cervical cancer is third and fourth most common malignancy among female respectively(11). Keeping in view this back ground we conducted a cross sectional study to pick up prevalence of CIN and risk factors in outpatient department of a tertiary care hospital.

PATIENTS AND METHODS

This study was conducted in gynecology outpatient department of Liaquat University hospital Hyderabad. It was prospective cross sectional study conducted from July 2011 to December 2011. Departmental approval for study was obtained. A well understand and well informed consent was taken about the participation in the study. Data was collected on a specially designed proforma .Inclusion criteria were all sexually active women between age group 15-65 years visited gynae OPD due to any problem. Exclusion criteria were active heavy vaginal bleeding, pap smear taken within last three years, history of total abdominal hysterectomy, women who were never sexually active, diagnosed case of carcinoma cervix, patients with placenta praevia and patients delivered within last three months.

Patients were explained about method of collection of Pap smear and asked to empty bladder and to lie on table in modified dorsal position. A sterilized suitable size bivalve self-retaining speculum soaked with distilled water was introduced in the vagina to visualize the cervix in sufficient light. Ayres spatula was used to collect the specimen by rotating at 360 degree around squamo columnar junction. Smear was spread on glass slide quickly fixed with 95% ethyl alcohol, dried and marked. After collection of sample it was handed over to the patient to submit it to the pathology laboratory. Detailed information was provided on the proforma to the cytologist, all reports were analyzed .Data evaluated in statically programme SPSS version 16. Qualitative data (frequency and percentage)such as age ,parity, risk factors, cytology and severity of CIN were presented in %..Numerical parameters like age in years was expressed as mean ± standard division. No statical test was applied.

RESULTS

Total 1000 patients were enrolled in the study but 300 patients lost the follow up, so the study was continued with 700 patients. Over the study period 32 patients' cervical smear report were positive for CIN giving a frequency of 4.5%. Eighteen (56.25 %) patients had CINI and equal number of patients that is 7(21.87%) had CINII and CINIII. **Table I** shows frequency of risk factors present in these patients. Mean age of patients was 37.50 ± 9.4 years. Nineteen (59.4%) got marriage before 15 years of age. Mean age ± SD of first marriage was 18.02 ±1.2. Twenty nine (90.06) patients were from poor families. Twenty five (78.12%) patients were illiterate. All patients were house wives and Muslims. Twenty one (65.62%) patients husbands were unskilled labors and seven (21.87%) patients husbands were drivers.22(68.78%) patients had more than four children's. 65.62%(21) patients were non-smokers. In seven (21.87%) patients vulval warts were present while twenty five (78.12%) patients were not using any contraception.

TABLE I: DEMOGRAPHIC CHARACTERS (n=32)

Parameter	Number	%
Age		
≤20	1	3.12
21-40	24	75
>40	7	21.87
Parity		
< 4	10	31.25
>4	22	68.75
Job		
Housewife	32	100
Employee	0	0
Education level		
No education	25	78.125
Primary education	3	9.37
Secondary education	3	9.37
Higher education	1	3.125

Mean age SD ± 37.50 ± 9.4 years

TABLE II: RISK FACTOR (n=32)

Risk Factors	Number	%
Socio-economic status		
Poor class	29	90.6
Middle class	3	9.4
Upper class	0	0
Occupation of husband		
Driver	7	21.87
Un skilled labor	21	65.62
Professional	4	12.50
Religion of patient		
Muslim	32	100
Non -Muslim	0	0
Smoking habits		
Smoker	11	34.25
Non-smoker	21	65.62
Age of first sexual experience		
<15	19	59.37
16 - 20	12	37.5
>20	1	3.12
Vulval warts		
Positive	7	21.87
Negative	25	78.12
Contraceptive method		
OCP	04	12.5
Barrier	3	9.37
Non-user	25	78.12
No of marriage		
Self		
One	14	43.75
MORE THAN ONE	18	56.25
Spouse		
one	10	31.25
More than one	22	68.75

DISCUSSION

Cervical cancer is the second most common cancer in women worldwide, with an incidence ranging from 10 per 100,000 women in industrialized countries to 60 per 100,000 women in some developing countries (12). It is largely preventable if precancerous lesion are detected by effective screening and then adequately treated.

In our part of world common people have scarce knowledge and information about cervical cancer and its risk factors. Illiteracy is one of a risk factor for cervical cancer, because it has an effect on women's nutrition, perennial hygiene, age of marriage, parity, contraceptive choice to assess health facilities and health seeking behavior. In current study 90.6% women were poor and 78.12% women were illiterate. Same observation was noted in a local study by Khattak ST and his colleagues conducted in Peshawar(13). 56.3% patients in current study were in age group 31-40% while in a study of Hispanic women by Byrd TL 52.4% patients were in age group 26 to 39 years(14). In the present study 68.8 %(22) had more than 4 children, .This figure correlates well with the figures reported from other studies conducted in Pakistan i.e. 52% by Ahmad N in a study from nisthar hospital Multan(15) and also in a study conducted by Khan MS in Islamabad also shows same figure(16). Contraceptive practices of our population greatly vary. Oral contraceptive users of longer than five years were very low in our study, this finding may seem protective against cervical carcinoma but it was balanced by the fact that barrier method of contraception was not commonly practiced, which could provide protection from sexually transmitted diseases and cervical cancer.

In the present study, 12.5% patients used oral contraception, 9.3% used barrier method, and 78.12% were non users of contraception. This is in contrast to a study conducted at PNS Shifa hospital Karachi, where contraceptive practices were evaluated in patients undergoing screening and revealed that 6.5% were using oral contraceptive pills, 45.5% patients were using barrier method while 29% were not practicing any contraception (17). Recent review reported that oral contraceptive users start having sexual intercourse at an earlier age, have more sexual partners and rarely used barrier methods of contraception. The entire later factors act as promoters for HPV induced carcinogens.

Smoking increases the risk of cervical cancer among HPV positive women (18). In our study 34.3% women had habit of smoking. This figure is comparable with a local study conducted in rural population of NWFP, in which 36% of females were smokers (19).

Age at first coitus is one of important etiological factor of cervical cancer. It has being stressed, that age of first coitus form basis for cervical cancer this is due to sexual insult to young cervix. A higher percentage of women were married at an early age in our study. 59.4 %(19) were below age of 20 years and 40.6 % (13) were more than 20 years. While in a study by Sohail R in Lahore it was found that 43.3% women

were less than 20 years of age at the time of onset of sexual activity (20). A study carried out in Houston, USA suggested that age at first sexual intercourse less than 18 years carried a higher risk of developing CIN (21).

In our culture, it is difficult to extract history regarding number of sexual partner; therefore number of marriages of patient and her spouse were taken into consideration. There is indirect evidence in that many women had been married more than once or were wives to men with more than one wife are at more risk to develop CIN. 56.25% of our patients had more than1 marriage which is comparable to study by Praveen S. and her colleagues conducted in INMOL hospital Lahore, they encountered with more than 1 marriage (husband and wife) in 39% of sufferers of invasive cervical cancer (22).

CONCLUSION

Frequency of CIN is low in current study this may be because it concludes the results of study in single tertiary level hospital. To know the exact prevalence effective screening programme should be launched at national level and awareness must be created in health care providers and seekers regarding screening of cervical cancer.

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