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Original Research Article

Risk factors of carcinoma cervix

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ABSTRACT

Background: Cervical cancer is a cancer of the cervix uteri. It may present with vaginal bleeding but symptoms may be absent until the cancer is in its advanced stage. Cervix is the commonest site for female genital cancer. Cancer cervix is the most common cancer in women in developing countries where screening facilities are inadequate. This study aimed to analyze the risk factors of carcinoma cervix.

Methods: This descriptive study was conducted in Chittagong Medical College Hospital, taking 100 randomly selected patients of carcinoma cervix for one year (July 2019 to June 2020). The patients were selected from the gynae ward of Chittagong Medical College Hospital.

Results: Among the study subjects, most of the respondents (32, 32.0%) belonged to 51-60 years old followed by (24, 24.0%) 41-50 years and >60 years of age. Maximum patients (84, 84.0%) were Muslim, followed by Hindu (14, 14.0%). regarding occupation, a maximum (94, 94.0%) were housewives, and concerning marital status, most (88, 88.0%) of them were married. In this study, 36 (36.0%) patients had primary education followed by (30, 30.0%) secondary education. Most of the patients' spouses (32, 32.0%) were day laborers, followed by (24, 24.0%) service holders. In 78.0% of cases, the husband lived with the patients and 12.0% were apart but within the country and 10.0% live abroad. In 14.0% of cases, the husband had another sex partner. Among the study population, 18.0% of patients were habituated to chewing tobacco. Among the 100 patients multiparity (84.0%), early marriage (36.0%) early age of first intercourse (36.0%) and below average socioeconomic group (72.0%), and high-risk male partners (28.0%), and few multiple sex partner and STDs.

Conclusions: In developing countries like Bangladesh, the majority of cases of carcinoma cervix are diagnosed at an advanced stage. Most of the cases were from poor to middle socio-economic backgrounds. Multiparity, early marriage, early age of first intercourse, and high-risk male partner were the main risk factors for the development of carcinoma cervix.

Keywords: Carcinoma cervix, Multiparity, Screening test

INTRODUCTION

Cervical cancer is a cancer of the cervix uteri. It may present with vaginal bleeding but symptoms may be absent until the cancer is in its advanced stage.¹ Cervix is the commonest site for female genital cancer.² Among women dying from malignant diseases of all kinds, cervical cancer is 5%.³ Cancer cervix is the most common cancer in women in developing countries where screening facilities

are inadequate. The incidence of cervical cancer is steadily declining in the developed world.⁴ The rate of cervical cancer is decreasing day by day due to their awareness of cervical cancer, especially its risk factors, and undertaking measure like routine screening tests.⁵ Every year about 12000 new cases appear. The scenario is alike in Bangladesh to that of other developing countries where screening program is not established.³ Cervical cancer is a preventable condition and over 95% of patients with

carcinoma cervix can be cured by early detection. Cervical cancer is believed to be a disease that develops progressively through different stages of cell changes, going from normal epithelium to invasive carcinoma. So, its early diagnosis is possible. However, in the very early stage, invasive cervical carcinoma causes no symptoms and is only discovered accidentally or as a routine search. Therefore, knowledge and awareness about exposure to risk factors are very important which will make them go for the screening test and help thereby causing early detection.^{5,7} The cause of cervical cancer is yet not known but there are some risk factors. The most important risk factor in the development of cervical cancer is infection with a high-risk strain of the human papillomavirus. The virus cancer link works by triggering alterations in the cells of the cervix which can lead to the development of cervical intraepithelial neoplasia which can lead to cancer. Women who have many sexual partners (or who have sex with men or women who had many other partners) have a greater risk.⁸ The American Cancer Society provides the following list of risk factors for cervical cancer: human papillomavirus (HPV) infection, smoking, HIV infection, chlamydia infection, dietary factors, hormonal contraception, multiple pregnancies, exposure to the hormonal drug DES and a family history of cervical cancer. There is a possible genetic risk associated with HLA-B7.⁹ Women with any of these factors rarely develop cervical cancer. In thinking about the factor it helps to focus on those that can be changed or avoided (for example smoking or sexual behaviors) rather than those that cannot be (such as age, and family history). However, it is still important to know about risk factors that cannot be changed. Because it is even more important for women with those to get regular screening tests to detect carcinoma cervix early.¹⁰

The medically accepted paradigm, officially endorsed by the American Cancer Society and other organizations, is that a patient must have been infected with HPV to develop cervical cancer, hence viewed as a sexually transmitted disease, but most women infected with high-risk HIV will not develop cervical cancer. The use of condoms reduces but does not always prevent transmission. Likewise, HPV can be transmitted by skin-to-skin contact with infected areas.¹¹ This study aimed to analyze the risk factors of carcinoma cervix.

Objectives

General objective

General objective of the study was to analyze the risk factors of carcinoma cervix.

Specific objectives

Specific objectives of the study were to see the prevalence of smoking and chewing tobacco among the patients, and to see the educational qualification and occupations among the patients.

METHODS

This descriptive study was conducted in Chittagong Medical College Hospital, taking 100 randomly selected patients of carcinoma cervix for one year (July 2019 to June 2020). The patients were selected from the gynae ward of Chittagong Medical College Hospital. After taking a careful history, and enough clinical examination cervical biopsy was taken for confirmation. After confirmation staging was done. Then cases were selected for treatment with surgery, radiotherapy, and chemotherapy as suitable for the patients. All observations were noted in the "clinical data sheet". The results were calculated and interpreted through appropriate statistical analysis and presented with table, and other illustrations. Before the commencement of this study, the research protocol was approved by the research committee (local ethical committee). Informed written consent was taken from each patient. It was assured that all information and records will be kept confidential.

Inclusion criteria

Women of >30 years old, patients of diagnosed ca cervix, and patients who had given consent to participate in the study were included.

Exclusion criteria

Patients who did not give consent to participate in the study and patients with other chronic diseases were excluded.

RESULTS

Among the study subjects, most of the respondents (32, 32.0%) belonged to 51-60 years old followed by (24, 24.0%) 41-50 years and >60 years of age (Table 1).

Table 1: Age distribution of study population (N=100).

Age (years)	N	%
31-40	20	20.0
41-45	24	24.0
51-60	32	32.0
>60	24	24.0

Maximum patients (84, 84.0%) were Muslim, followed by Hindu (14, 14.0). regarding occupation, a maximum (94, 94.0%) were housewives, and concerning marital status, most (88, 88.0%) of them were married (Table 2).

In this study, 36 (36.0%) patients had primary education followed by (30, 30.0%) secondary education (Table 3).

Most of the patients' spouses (32, 32.0%) were day laborers, followed by (24, 24.0%) service holders (Table 4).

Table 2: Baseline characteristics of the study subjects (N=100).

Characteristics	N	%
Religion		
Muslim	84	84.0
Hindu	14	14.0
Christian	02	2.0
Occupation		
Housewife	94	94.0
Service holder	06	6.0
Marital status		
Married	88	88.0
Widow	12	12.0
Unmarried	00	0.0

Table 3: Level of education of patients (N=100).

Education level	N	%
Illiterate	12	12.0
Primary	36	36.0
Secondary	30	30.0
SSC/above	22	22.0

Table 4: Distribution of subjects according to occupation of spouse (N=100).

Occupation	N	%
Service holder	24	24.0
Business	08	8.0
Farmer	08	8.0
Day laborer	32	32.0
Driver	16	16.0
Unemployed	04	4.0
Others	08	8.0

In 78.0% of cases husbands lived with the patients and 12.0% apart but within the country and 10.0% live abroad (Table 5).

Table 5: Residence status with husband (N=100).

Residence	N	%
With husband	78	78.0
Apart but within the country	12	12.0
Husband abroad	10	10.0

In 14.0% of cases, the husband had another sex partner. (Figure 1).

Among the study population, 18.0% of patients were habituated to chewing tobacco (Table 6).

Among the 100 patients multiparity (84.0%), early marriage (36.0%) early age of first intercourse (36.0%) and below average socioeconomic group (72.0%), high-risk male partners (28.0%), and few multiple-sex partners and STDs (Table 7).

Table 6: Habituation of smoking or chewing tobacco of subjects (N=100).

Habituation	N	%
Yes	18	18.0
No	82	82.0
Smoking	00	0.0
Chewing	18	18.0

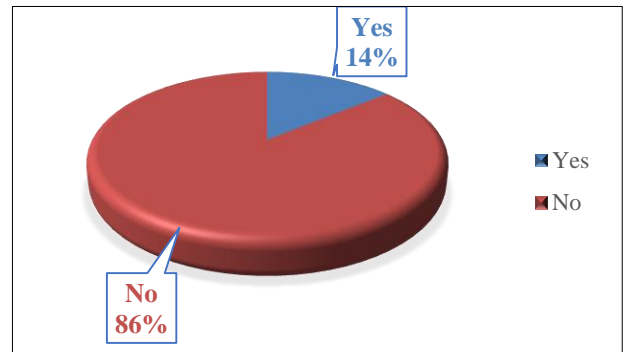


Figure 1: Husbands another sex partner (N=100).

Table 7: Risk factors of the study population (N=100).

Risk factors	N	%
Multiparity (>4)	84	84.0
Early age of first intercourse (before 15 years)	36	36.0
Early marriage (before 15 years)	36	36.0
Low socio-economic group	72	72.0
High-risk male partner	28	28.0
Oral contraceptive pill	16	16.0
Early menarche	12	12.0
Late menopause	02	2.0
Sexually transmitted disease	02	2.0

DISCUSSION

Among the study subjects, most of the respondents (32, 32.0%) belonged to 51-60 years old followed by (24, 24.0%) 41-50 years and >60 years of age which was similar to another study.¹² Among 100 patients studied in this series, multiparity 84%, and early age of intercourse 36%, were the commonly identified risk factors. The earliest marriage recorded was at 12 years in this series. It was about 60% in Banu. A series and 1st intercourse at 15 years of age. The earliest marriage in Mushaheda series was 10 years.^{13,14} In this study 84% of the patients have parity 4+, even a mother of 9 children has also been recorded. Parity 5 was associated with most of the patients. In this study, high-risk male partners were truck drivers, rickshaw pullers, CNG auto rickshaw drivers and day laborers. High parity was 72% of the patient in Mushaheda series, even the mother of 12 children had also been recorded. In Mushaheda series parity 5 was associated with the largest population (22%) followed by parity 8

(14%).¹⁴ Emembolu et al showed incidence of cervical cancer increases from parity six onward.¹⁵ Nulliparous women were detected only 1 in Musaheda series, 0.9% in the series by Fauzia. In Banu series 90% of the patients' parity was 4 and above.^{13,14,16} 14% had multiple sex partners, and 18% of patients habituated to chewing tobacco in this study. In Mushaheda series high-risk male partners like track drivers, rickshaw pullers, and hawkers, were recorded as 28% and 4% of patients had multiple sex partners.¹⁴ An increased number of a sexual partner for the husband also increase the risk for the wife.¹⁷ In Bangladesh, sexual conduct is guided by religious and social norms and extramarital sex is not common. 16% of the patients were on oral contraceptives pill. Though the role of OCP in the causation of cervical carcinoma is debatable, a review study on "the role of steroid contraceptive hormones in the pathogenesis of invasive cervical cancer" showed steroid contraception has been postulated to be one mechanism whereby HPV exerts its tumorigenic effect on cervical tissue. Steroids are thought to bind to specific DNA sequences with the transcriptional regulating regions on the HPV DNA to either increase or suppress the transcription of various genes. The role of steroids was further enhanced by the discovery of hormone receptors in cervical tissue. Similar findings were also evident from other work including Royal college and WHO.¹⁸ In this study, 18% of patients were habituated to tobacco chewing. University Hospital of Cleveland, USA in a study on cervical cancer showed smoking, exposure to HPV and immune system dysfunction are the risk factors for cervical cancer.¹⁹

Limitations

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSION

In developing countries like Bangladesh, the majority of cases of carcinoma cervix are diagnosed at an advanced stage. Most of the cases were from poor to middle socio-economic backgrounds. Multiparity, early marriage, early age of first intercourse, and high-risk male partner were the main risk factors for the development of carcinoma cervix.

Recommendations

All categories of health care providers, in whatever setting they work should provide correct and consistent information to women on cervical cancer how it can be prevented, reasons for screening, and the significance and management of any abnormalities detected. Moreover, further studies should be conducted involving a large sample size and multiple centers.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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