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RESEARCH ARTICLE

Assessment of Sociodemographic Profile, Risk and Delay Factors of Cancer Cervix in Bangladesh

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Abstract

Background: Cervical cancer is one of the most significant causes of morbidity and mortality among females worldwide. It is the third most cancer worldwide, and 80% of cases occur in the developing countries. It is the leading cause of death from cancer among women where it causes 190,000 deaths each year. Also, the cervical cancer prevalence in Bangladesh is quite high. Every year approximately 11956 women are diagnosed cervical cancer in Bangladesh. Every day 18 women die due to cervical cancer. Every year approximately 6582 women die due to cervical cancer in Bangladesh. The risk factors of the cervical cancer are early age of marriage, early sexual exposure, repeated child birth, multiparity, promiscuity, poor hygiene, poor nutrition, oral contraceptive pill, smoking, family history of cervical cancer etc.

Objective: The objectives of the study are to assess the socio-demographic profile and to identify the risk factors and the factors causing the delay in management of cervical cancer.

Methodology: This cross sectional study was conducted from July 2013 to June 2015 in Obstetrics and Gynaecology department, Dhaka Medical College hospital, Dhaka, Bangladesh. 200 patients of biopsy proved cancer cervix were included in this study. Non-probability purposive sampling method was used for selection of patients.

Results: In this study, Socio-demographic profiles, Identification of risk factors, and the factors causing the delay in management of cervical cancer were assessed. Among new patients seeking treatment from the department, 200 new cases of carcinoma of uterine cervix were considered for the study. Mean age of patients with carcinoma cervix in our study was 47.9 ± 8.89 years. 41% belonged to the age group of 41 to 50 years and 27.5% were of the age group 51 to 60 years. In this study, 44% belonged to BPL (below poverty line) category. Majority (56.5%) of the patients was illiterate and multiparous (96%). 130 patients (65%) got married between the age ranges of 10-15 years and had first coitus before age of sixteen. Most counted age range of first child birth was 16-20 years (57.5%). Most common presentation was with foul smelling/ blood stained P/V discharge (78.5%; 157 out of 200 cases). Only 27 cases (13.5%) had done cervical screening at least once previously. The rest 173 cases (86.5%) did not know about any kind of cervical screening method. For quantitative comparison of the delays in between different levels of health providing sector here in Bangladesh, we categorized the intervals and patterns of referrals. In most cases (89.5%), the 1st reporting health care provider was a doctor. Majority of the cases were referred from private clinics (44%) and other medical colleges or tertiary level hospitals (35%). Interval between appearance of symptoms and first reporting to health care provider was more than 1 year in 30% cases whether between first reporting and clinical diagnosis it was found to be more than 6 months in 28% cases. The interval between clinical and histological diagnosis was more than 1 month in 32% cases and that between histological diagnosis and getting appropriate treatment was more than 1 month in 33.5% cases. With a view to searching for the delay in diagnosis in 56 out of 200, negligence of the patients and her relatives toward the symptoms was found to be the most important cause (12.5%) for the delay of diagnosis. The other prevalent causes were financial crisis (9%) and taking homeopathic and unscientific treatments (9%). False negativity of the screening test was responsible in 6 of the cases. In some cases (7 cases) doctors were responsible too, by failure to diagnosis and even malpraxis. In searching for the delay in treatment of cancer cervix in 67 out of 200, 16.5% of those cases were cause of the delay in hospital due to long queue of operations (3%) or radiotherapy (13.5%). Financial crisis was also responsible for delay in treatment for 28 cases. Others were not fit for the operation.

Conclusions: A large number of risk and delay factors in the management of cancer cervix were identified in this study. So, regular cervical screenings are necessary to reduce the incidence and mortality from cervical cancer. Failure of proper and timely referral is one of the important causes of delay in diagnosis and treatment.

Keywords: Cancer cervix; Risk factors; Delay factors; Cervical screening; Morbidity and mortality

Introduction

Cervical cancer is a disease of significant worldwide morbidity and mortality. It is one of the common female gynecological cancers. Cervical cancer is a major health problem for the

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female population of the world with an estimated 83,195 new cases and 35,673 deaths in 2012. It is the third most common cancer among women worldwide. Every hour somewhere in the World, 4 women are dying due to cervical cancer.[1] Cervical Cancer is a global burden and unfortunately 80% of this global burden is in developing countries. In developing countries, it is the most common cause of cancer in women. Most of the patients come in the advanced stages [1-4]. Also the cervical cancer prevalence in Bangladesh is quite high. Every year approximately 11956 women are diagnosed cervical cancer in Bangladesh. Every day 18 women die due to cervical cancer. Every year approximately 6582 women die due to cervical cancer in Bangladesh [1]. The risk factors of the cervical cancer are early age of marriage, early sexual exposure, repeated child birth, multiparity, promiscuity, poor hygiene, poor nutrition, oral contraceptive pill, smoking, family history of cervical cancer etc. [1-4].

Delayed diagnosis in cancer is defined: When someone has cancer but –

- Does not recognize the symptoms
- Sees a healthcare practitioner not able to recognize the symptoms
- Is not investigated or referred for investigations
- Having been investigated, but not diagnosed at that time
- Is diagnosed incorrectly
- Has a positive test result or diagnosis, but not communicated effectively to the patient/subject specialist
- Has a positive test result or diagnosis where appropriate treatment has not commenced on time. (Based on NPSA 2010 definition) [2]

Objectives of the study

» To assess the socio-demographic profile

» To identify the risk factors

» To identify the factors causing the delay in management of cervical cancer

Materials and Method

This cross sectional study was conducted from July 2013 to June 2015 in Obstetrics and Gynaecology department, Dhaka Medical College hospital, Dhaka, Bangladesh. 200 patients of biopsy proved cancer cervix were included in this study. Non-probability purposive sampling method was used for selection of patients.

Results

A. Demographic Profile

Table 1

B. Identification of risk factors

Tables 2-13

Demographic characteristics	Frequency	Percentage (%)
Age		
< 30	8	4.0
31-40	43	21.5
41-50	82	41.0
51-60	55	27.5
61-70	12	6.0
Total	200	100.0
Mean ± SD Range	47.9±8.89 26-70 years	
Education of the respondents		
Illiterate	113	56.5
Primary (Up to 5th grade)	45	22.5
SSC (Up to 10th grade)	39	19.5
HSC (Up to 12th grade)	2	1.0
Graduate & above	1	.5
Total	200	100.0
Occupation of respondents		
Housewife	179	89.5
Day labourer	10	5.0
Service	9	4.5
Business	2	1.0
Total	200	100.0
Husband's occupation		
Farmer	61	30.5
Day labourer	15	7.5
Rickshaw puller	9	4.5
Service holder	57	28.5
Business	47	23.5
Others	6	3.0
Works abroad	1	.5
Driver	4	2.0
Total	200	100.0
Socioeconomic condition		
Lower class	88	44.0
Middle class	58	29.0
Upper class	54	27.0
Total	200	100.0

Table 1: Distribution of the study respondents by demographic characteristics (n=200).

Marital age (years)	Frequency	Percentage (%)
10-15 yrs	130	65.0*
16-20 yrs	63	31.5
21-50 yrs	7	3.5
Total	200	100.0
Mean ± SD	14.6 ± 2.57	
P value reached from X^2 test (<15 years and >15 years group), <0.05 is considered as significant		

Table 2: Distribution of the patients by marital age of the respondents (n=200).

C. Identification of Delay factors

Tables 14-21

Discussion

Cervical cancer is one of the most significant causes of morbidity and mortality among females worldwide. It is the

Duration of marital life (years)	Frequency	Percentage (%)
<10 yrs	2	1.0
11-20 yrs	14	7.0
21-30 yrs	66	33.0
31-40 yrs	75	37.5
41-50 yrs	40	20.
51-60 yrs	3	1.5
Total	**200**	**100.0**

Table 3: Distribution of the patients by duration of conjugal life (n=200).

Nulliparous	08	04%
1-2	44	22%
>3	148	74%*
Total	**200**	**100.0**
P value reached from X^2 test (<3 Para and >3 Para group), <0.05 is considered as significant		

Table 4: Distribution of the patients by parity (n=200).

Pregnancy related variable	Frequency	Percentage (%)
Age of first pregnancy		
≤15 yrs	67	33.5
16-20 yrs	115	57.5
>20 yrs	18	9.0
Total	**200**	**100.0**

Table 5: Pregnancy related variables (n=200).

None	54	27%
Barrier	22	11%
OCP	112	56%
Others	12	06%
Total	**200**	**100.0**

Table 6: History of contraceptives (n=200).

Yes	96	48%
No	104	52%
Total	**200**	**100.0**

Table 7: High risk sexual behaviour (Sexual promiscuity) herself (n=200).

Yes	96	48%
No	104	52%
Total	**200**	**100.0**

Table 8: High risk sexual behaviour (Sexual promiscuity) Partner (n=200).

History of cervical cancer	Frequency	Percentage (%)
Yes	11	5.5
No	189	94.5
Total	200	100.0

Table 9: Family history of cervical cancer (n=200).

third most cancer worldwide, and 80% of cases occur in the developing countries. It is the leading cause of death from cancer among women where it causes 190,000 deaths each year [3].

Among new patients seeking treatment from the department,

Symptoms at the time of reporting		
Presentation	**Frequency**	**Percentage**
Foul smelling/ blood stained P/V discharge	**157**	**78.5%**
Post coital bleeding	**23**	**11.5%**
Irregular bleeding	**13**	**6.5%**
Pain in lower abdomen and back	**7**	**3.5%**

Table 10: Mode of presentation about cervical cancer (n=200).

Place	Frequency	Percentage (%)
Upazila Health Complex	10	5.0
Divisional Hospital	16	8.0
Medical College Hospital	70	35.0
Private Clinic	85	42.5
Doctors Chamber	3	1.5
NICRH (Cancer Institute)	16	8.0
Total	**200**	**100.0**

Table 11: Hospital where first diagnosis cervical carcinoma (n=200).

Yes	**27**	**13.5%**
No	173	86.5%
Total	**200**	**100.0**

Table 12: Cervical Screening Test (n=200).

Stages	Frequency	Percentage
Operable or early stage (IA- IIA)	112	56%
Advanced stage (IIB- IIIB)	80	40%
End stage (IVA- IVB)	8	04%
Total	**200**	**100.0**

Table 13: Stages of Cancer cervix at the time of diagnosis (n=200).

Health care provider	Frequency	Percentage
None	***8***	***4%***
Nurse	***13***	***7.5%***
Doctor	***179***	***89.5%***

Table 14: Level of health care provider (HCP) (1st reporting) (n=200).

Health care provider	Frequency	Percentage
None	16	8%
UHC/Districts	26	13%
Private Clinic	88	44%
Medical College/Tertiary Hospital	70	35%

Table 15: Pattern of referral (n=200).

Interval	Frequency	Percentage
<1 year	140	70%
1-2 year	35	17.5%
2-3 years	17	8.5%
>4 years	8	4%

Table 16: Interval between appearance of symptoms and reporting to health care provider (HCP) (n=200).

200 new cases of carcinoma of uterine cervix were considered for the study. Mean age of patients with carcinoma cervix in our study was 47.9 ± 8.89 years. 41% belonged to the age

Intertval	No. of cases	Percentage
<6 months	144	72%
>6 months	56	28%

Table 17: Interval between first reporting (HCP) and clinical diagnosis (n=200).

Causes	No. of cases	Percentage
Negligence of patients & her relatives	25	12.5%
Financial crisis	9	4.5%
False negativity of screening test	6	3%
Taking Kabiraji & homeopathic treatment	9	4.5%
Failure of doctor to diagnose early	5	2.5%
Malpractice of doctor	2	1%

Table 18: Causes of delay in the diagnosis of cancer cervix (n=56/200).

Interval	No. of cases	Percentage
<1 month	136	68%
1-3 month	30	15%
3-6 month	14	7%
6 months-1 year	20	10%

Table 19: Interval between the clinical and histological diagnosis (n=200).

Interval	No. of cases	Percentage
<1 month	133	66.5%
>1 month	67	33.5%

Table 20: Interval between the histological diagnosis and getting appropriate treatment (n=200).

Causes	No of cases	Percentage
Delay in hospital • Queue for operation (03%) • Queue for RT (13.5%)	33	16.5%
Financial crisis	28	14%
Not fit for operation	06	3%

Table 21: Causes of delay in the treatment of cancer cervix (n=67/200).

group of 41 to 50 years and 27.5% were of the age group 51 to 60 years. An increased incidence of Cervical Cancer was observed with increasing age and parity and early and prolonged sexual period [4]. As cervical cancer gradually grows from precancerous lesions to advanced stage of cancer, it peaks in women in their 50s and 60s [5].

In this study, 44% belonged to BPL (below poverty line) category [4]. Poverty, poor genital hygiene, low socioeconomic profile, lack of access to health services and lack of awareness about healthcare may be contributing to the high prevalence in rural areas [6-11]. The importance of proper education of women of low socioeconomic class for creating awareness regarding hazards and risk factors of cervical cancer as well as management and cure of the disease are highlighted thereby [4-7]. Majority (56.5%) of the patients were illiterate. This is consistent with the study done by Kaverappa et al. [6] and Rajarao et al. [4]. A lower education level leads to unawareness regarding the disease and lesser utilization of available health services and presentation at an advanced stage of the disease. Most of the respondents in the study were housewives (89.5%) in occupation and their husbands were in most cases Farmer (30.5%), Service holder (28.5%), Businessman (23.5%).

130 patients (65%) got married between the age ranges of 10-15 years and had first coitus before age of sixteen. Most counted age range of first child birth was 16-20 years (57.5%). Early sexual intercourse that results in more frequent and prolonged sexual activity especially in the young cervical tissue is much susceptible to oncogenic change especially by HPV [8]. In a similar study conducted among female health workers at the University of Benin Teaching Hospital, over one third (39.7%) of the respondents, had their sexual debut before the age of 20 [4-19]].

Majority of our patients were multiparous (96%). The increased levels of estrogen and progesterone for more prolonged periods during pregnancy in multiparous women may be reason for increased risk of carcinoma cervix in multiparous women [9]. Grand multiparity featured prominently in a study from Benin City [19]. High parity has long been suspected of being associated with an increased risk of cervical cancer [5]. Our study is consistent with the study done by Srivastava et al. [10] which showed that carcinoma cervix is a disease of higher parity probably due to the fact that repeated micro trauma and HPV infection leads to carcinoma cervix [10].

11% of couple had used condoms as the mode of contraception. But lack of protection may be due to inconsistent use [10]. Mitra [20] observed that use of condoms may not be very effective in preventing HPV infection. This is because the papilloma virus lives in the skin covering the pubic area as well as the cells lining the vagina and cervix in women and urethra and anus in both sexes. Condoms do not block contact with pubic skin and hence unable to give protection from HPV [11-20]. 56% had used OCP`s for contraception. Long-term use of oral contraceptives could be a cofactor that increases risk of cervical carcinoma by up to four-fold in women who are positive for cervical HPV DNA. In the absence of worldwide information about HPV status, extra effort should be made to include long-term users of oral contraceptives in cervical screening programme [11]. This is due to the fact that estrogen content in OCP increases proliferation of cells stimulates metaplasia [11,18] and increases longevity and reduces the turnover which predisposes to the perpetuation of HPV virus hence progresses to carcinoma cervix.

Most common presentation was with foul smelling/ blood stained P/V discharge (78.5%; 157 out of 200 cases). 23 out of 200 cases presented with post coital bleeding (11.5%), 6.5% (13 out of 200 cases) complained of irregular bleeding per vagina. Abnormal vaginal bleeding, offensive vaginal discharge and post- coital bleeding were the most common symptoms in a study from Nigeria [12].

Only 4 (2%) out of 200 cases in our study were involved in high risk sexual behavior (sexual promiscuity), whether in

96 (48%) of the cases, their partners were involved in such practices. That indicates that the risk is higher in choosing a promiscuous partner than being promiscuous herself. HPV is transmitted sexually thus the risk for cervical cancer increases with an increase in the number of sexual partners [17]. Yasmeen et al. [21], suggested that absence of promiscuity in a population from Kashmir was the cause of absence of cervical cancer in that community [21]. Moreover, the 11.5% positive family history for cervical cancer also indicates a probable hereditary link.

Only 27 cases (13.5%) had done cervical screening at least once previously. All of them had negative report. The rest 173 cases (86.5%) did not know about any kind of cervical screening method. More intensive implementation of cytological screening can go a long way in reducing the incidence of carcinoma cervix cases in our rural population. Limitations of Pap smear as a screening method are high false-negative rates, low sensitivity, subjective interpretation, and low predictive value, as one-third of women who progressed to cervical cancer had a normal pap smear [14]. The pap smear has lost its dominance in cervical cancer prevention programs in both developed and developing countries and HPV-based screening is more effective than cytology-based screening [15]

Fortunately, most of the cases (56%) in our study were diagnosed in operable stage (IIA-IIB). Out of 200 cases, 80 (40%) were in advanced stage, who were treated with radiotherapy or as they were indicated.

For quantitative comparison of the delays in between different levels of health providing sector here in Bangladesh, we categorized the intervals and patterns of referrals. In most cases (89.5%), the 1st reporting health care provider was a doctor. Majority of the cases were referred from private clinics (44%) and other medical colleges or tertiary level hospitals (35%). Interval between appearance of symptoms and first reporting to health care provider was more than 1 year in 30% cases whether between first reporting and clinical diagnosis it was found to be more than 6 months in 28% cases. That shows the widespread lack of awareness and the degree of negligence about the symptoms of the patients in this country. It also implements that the available health care providing infrastructure must be prompter and more effective at diagnosing the cases at an early stage. The interval between clinical and histological diagnosis was more than 1 month in 32% cases and that between histological diagnosis and getting appropriate treatment was more than 1 month in 33.5% cases. It's because, despite all the limitations, care and treatment were assured in the least possible time with sincerity and proper cooperation.

With a view to searching for the delay in diagnosis in 56 out of 200, negligence of the patients and her relatives toward the symptoms was found to be the most important cause (12.5%) for the delay of diagnosis. The other prevalent causes were financial crisis (9%) and taking homeopathic and unscientific treatments (9%). False negativity of the screening test was responsible in 6 of the cases. In some cases (7 cases) doctors were responsible too by failure to diagnosis and even malpraxis.

With a view to searching for the delay in treatment of cancer cervix in 67 out of 200, 16.5% of those cases were cause of the delay in hospital due to long queue of operations (3%) or radiotherapy (13.5%). Financial crisis was also responsible for delay in treatment for 28 cases. Others were not fit for the operation. In developing countries, where there are a lot of limitations like much less infrastructures and staffs compared to the number of patients, these causes are quite predictable and really hard to deal with.

Conclusion

A large number of risk and delay factors in the management of cancer cervix were identified in this study. So, regular cervical screenings are necessary to reduce the incidence and mortality from cervical cancer. Failure of proper and timely referral is one of the important causes of delay in diagnosis and treatment.

Recommendation

Earlier diagnosis of cervical cancer could save up to 12,000 lives in a year in Bangladesh alone. Addressing the issues around delayed diagnosis is a key strategy for all governments in the Bangladesh. Coordinating efforts ensures appropriate overlap, sharing of ideas and dissemination of solutions.

Conflict of interest

The authors have no conflict of interest in relation to this article.

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