Sociodemographic and Clinical Profile of Cervical Cancer Patients Visiting Government Cancer Hospital in Maharashtra

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Abstract:

Introduction: Approximately 1 in 53 Indian women have cervical cancer. As per GLOBOCAN 2020 Statistics 1,23, 907 new cases diagnosed and 77348 lost their lives in India alone. Aim: Studying the clinical and sociodemographic profile can help to take control measures in Cancer cervix. Hence study was conducted at a tertiary care govt cancer hospital.

Methods: Medical records of 274 cervical cancer women from January 2022 to June 2023 were retrospectively analysed. The sociodemographic and clinical details were obtained. Data was analysed using descriptive statistics. Chi-square test was used to assess relationship between variables.

Results: 35.03% cases were in the age group of 65–74. Hindus were 95.98%. 56.93% were illiterate. 89.78% of were married, 10.21% were widows. Homemakers were 60.58% and 24.08% were farms workers. 83.21% were from rural area. 92% were diagnosed in advanced stage with Stage 2 (45.25%) & 3 (48.54%) disease. 93.79% had squamous cell carcinoma. 87.59% carried normal activities without restriction. 25.52% had comorbidity of which 17.15% were hypertensive. Common symptoms included bleeding per vagina (46.35%), white discharge (20.43%), back pain (12.04%), abdominal pain (9.85%) and post-coital bleeding (8.39%). Stage of disease was found to be significantly ($P < 0.05$) associated with age, parity & educational status.

Conclusion: This study highlights certain important baseline characteristics of cervical cancer. This basic information on profile of cases emphasises need of measures to catch cases at an early age, especially in married, rural and illiterate women for early detection of Cancer cervix in a socio-economically poor area.

Key Words: cervical cancer, post-coital bleeding, white discharge, squamous cell carcinoma, bleeding per vagina

Introduction

Globally cervical cancer continues to be one of the most common cancers among females, 4th most common after breast, colorectal and lung cancer, and a major health problem in developing countries. It is estimated that the incidence of cervical cancer is approximately 1 in 53 Indian women. As per GLOBOCAN 2020 Statistics 1,23, 907 new cases diagnosed and 77348 lost their lives in India alone. The exact cause of cervical cancer is still unknown. However, it is more common in women living under lower socioeconomic conditions and with lack of education. The risk factors related to cervical cancer are exposure to human papilloma virus, early age at marriage, early age at first sexual intercourse, a greater number of sexual partners, high parity, smoking, and several others. [1]

India, large section of population belongs to below poverty line lacking awareness and access to cervical cancer screening, diagnosis, and treatment facilities. Cervical cancer accounts for almost 17% of the cancer deaths among women aged 30-70 years. [2] Effective screening program reduces the incidence and mortality of cervical cancer as the disease is potentially preventable. In developed countries, routine cervical cancer screening prevents up to 80% through early detection and management of pre-cancerous cervical lesions Studying the clinical and sociodemographic profile, additional

comorbidities along with patient presentation is the main stay to plan control measures. [3]

Hence, study has been conducted in a tertiary care hospital to study the clinical and sociodemographic profile of cervical cancer patients.

Methodology:

This is a retrospective study based on hospital records of Government Medical College and Cancer Hospital, Aurangabad, Maharashtra. Medical records of 274 cervical cancer patients reported to Department of Gynaec-oncology, from January 2022 to June 2023 and treated were retrospectively analysed. Patients who were registered before the study period and already on treatment were excluded from the study.

The sociodemographic and clinical details obtained from the hospital records were age, residential address, religion, marital status, education, occupation status, treatment history, stage, tumour histology, performance status (score), and presence of comorbid conditions.

Data was analysed using descriptive statistics. Chi-square test was used to assess relationship between variables. For application of Chi-square test rows and columns were pulled together wherever required for the fulfilment of criteria. $P < 0.05$ was considered statistically significant.

Results:

A total of 274 cervical cancer patients were included in this study. Table 1 portrays the sociodemographic profile of cervical cancer patients. Majority of the patients were in the age group of 65–74 (35.03%), followed by 55–64 (24.08%) and 20.07% in 45- 54 age group. Most of the patients were Hindus (95.98%), followed by Muslims (4.01%). More than half of the patients were illiterate (56.93%) and only 4.74% of the patients had completed secondary level education. Nearly 89.78% of patients were married, 10.21% were widows. Majority of the patients were homemakers (60.58%) and 24.08% were working in farms. Most of the patients (83.21%) were from rural area. Out of total patients 4.01% had already taken some kind of cancer treatment before coming to this centre [Table 1].

Table 1: Sociodemographic Profile of Cervical Cancer patients

Sociodemographic Factor	No. of Pts	(%)
1) Age Group (Yrs)		
< 35	4	1.45
35 to 44	33	12.04
45 to 54	55	20.07
55 to 64	66	24.08
65 to 74	96	35.03
75 & above	20	7.30
2) Religion		
Hindu	263	95.98
Muslim	11	4.01
3) Education Level		
Illiterate	156	56.93
Primary	60	21.89
Middle	45	16.42
Secondary	13	4.74
College & above	00	00
4) Marital Status		
Married	246	89.78
Widow	28	10.21
5) Occupation		
Homemaker	166	60.58
Service	16	5.83
Retired	3	1.09
Agricultural	66	24.08
Other	23	8.39
6) Residence		
Urban	46	16.78
Rural	228	83.21
7) Parity		
Nulli	2	0.72

1 to 2	68	24.81
3 to 4	161	58.75
7,5	43	15.69
8) T/t history		
No. prior t/t	263	95.98
Prior t/t	11	4.01
TAH+BSO (Outside)	5	1.82
Radical hysterectomy	3	1.09
Outside Subtotal hysterectomy	2	0.72
Clinical Factor	No. of Pts	(%)
1) Symptoms		
Abd Pain	27	9.85
Back Pain	33	12.04
Postcoital bleeding	23	8.39
Bl per vagina	127	46.35
White discharge	56	20.43
Burning micturition	6	2.18
Difficulty to defecate	2	0.72
Loss of appetite / Loss of wt	18	6.56

Table 2: Clinical Profile of Cervical Cancer patients

2) Stage		
I	9	3.28
II	124	45.25
III	133	48.54
IV	8	2.91
3) Histology		
Squamous	257	93.79
Non Squamous	17	6.20
4) Performance Status (Score)		
Normal, asymptomatic(0)	0	0
Symptomatic, ambulatory(1)	240	87.59
Symptomatic, limited work(2)	31	11.31
Symptomatic, in bed(>3)	3	1.09
5) Comorbid Condition		
Hypertension	47	17.15
Diabetes	9	3.28
Heart Disease	0	0
HIV positive	6	2.18
HbsAg positive	1	0.36
Others	7	2.55

(Others: Obstructive uropathy - 3, TB-1, VVF-2, RVF-1)

Table no.2 shows that the Clinical stage of disease, tumour histology, performance status, major comorbid conditions and symptoms were considered to describe the clinical profile of patients. Stage-wise distribution of cervical cancer patients showed that a very small percentage of patients (3.28%) were diagnosed at early stage. Majority of the patients were diagnosed with Stage 2 (45.25%) or 3 (48.54%) disease. Nearly 93.79% of patients had squamous cell carcinoma. Performance status was recorded based on Eastern Cooperative Oncology Group scale. The findings of performance status revealed that about 87.59% of patients were able to carry out all normal activities without restriction. Moreover, only a very small proportion (1.09%) were bedridden. History of hypertension, diabetes, heart disease, AIDS (HIV+ve), hepatitis (HBsAG+ve), asthma, and chronic pulmonary disease were considered as the presence of comorbidity. About 25.52% of patients had one or more comorbid conditions, of which hypertension

(17.15%) was the leading cause of comorbidity followed by diabetes (3.28%) [Table 2].

Most common presenting symptoms of cancer cervix patients included bleeding per vagina (46.35%), white and foul-smelling discharge (20.43%), back pain (12.04%), abdominal pain (9.85%) and post-coital bleeding (8.39%).

Table 3: Comparison of Cervical Cancer patients' educations and their stage of cancer

Education Level	Stage I	Stage II	Stage III	Stage IV	Total	P
Illiterate	1	74	75	6	156	
Primary	3	46	54	2	105	
Secondary & above	5	4	4	0	13	<0.00001
Total	9	124	133	8	274	

Table no.3 shows that the Chi – square test revealed significant association between stage of cervical cancer and educational status showing higher the illiteracy more is chance of higher staging of cervical cancer.

Table 4: Comparison of Cervical Cancer patients' parity and their stage of cancer

Parity	Stage - I	Stage – II	Stage - III	Stage - IV	Total	P
Nulli	1	1	0	0	2	
1 – 2	5	33	30	0	68	
3 – 4	3	73	83	2	161	<0.00830
> 5	0	17	20	6	43	
Total	9	124	133	8	274	

Table no.4 shows that the Chi – square test denoted strong association between stage of cervical cancer and parity. Furthermore, we tried to analyse if there is any association between stage of disease and sociodemographic factors such as age, parity, and level of education. Stage of disease was found to be significantly ($P < 0.05$) associated with age, parity, and educational status [Tables 3, 4 and 5].

Table 5: Comparison of Cervical Cancer patients' age and their stage of cancer

Age	Stage - I	Stage - II	Stage - III	Stage - IV	Total	P
<35	3	1	0	0	4	
35 – 44	4	19	10	0	33	
45 – 54	2	25	27	1	55	<0.00001
55 – 64	0	35	29	2	66	
65 – 74	0	43	51	2	96	
75 & above	0	1	16	3	20	
Total	9	124	133	8	274	

Chi – square test revealed significant association between stage of cervical cancer and age of patient showing more is the age of patient, more are chances of higher staging of cervical cancer.

Discussion:

Cervical cancer is a highly preventable women cancer and can be effectively controlled through accelerated population-based screening programmes including high risk communities, given the long latent period of intraepithelial neoplasia, which can be easily detectable through Pap-smear test. [4] In contrast to developed countries, cervical cancer is a major public health problem in India. In developed countries, conventional cytology screening programs have shown a marked decline in the incidence of cervical cancer. However, the same not feasible in low-resource settings of our country where a high risk of cervical cancer is experienced. Therefore, a substantial part for cancer control is through early diagnosis and treatment of disease in tertiary cancer care institutes. To plan future control and treatment activities, correct data on patient's sociodemographic profile and clinical presentation are very essential. [5] Hence, this study was conducted to assess various characteristics of patients visiting a tertiary care cancer hospital.

Cervical cancer is most often diagnosed between the ages of 35 and 44. The average age of diagnosis in the United States is 50. Over 20% of cervical cancers are diagnosed after age 65. These cases usually occur in people who did not receive regular cervical cancer screenings before age 65. It is rare for people younger than 20 to develop cervical cancer. [6] In our study, the patients were grouped age wise; majority of them belonged to 65–74 year followed by 55–64-year age groups. 86% of patients were >45 years in our study. Other studies also showed maximum patients of >45 years. This older age indicates a relative lack of awareness and

nonavailability of screening facilities for cervical cancer in our country.

In our study, majority of the study subjects were Hindu (95.98 %). These findings were comparable with findings of most of the Indian studies.

Majority of study participants (56.93%) in our study were illiterate with only 4.74% of the patients educated up to secondary and above level. Statistical analyses of the data revealed that educational status was indeed significantly associated with staging of cancer. Our findings are also consistent with other studies where illiteracy was documented as a risk factor for cervical cancer. Lack of education was also associated with early marriage and high parity rates, which are also considered to be independent risk factors for cervical cancer. These observations have clearly emphasized the fact that improvement in literacy level of women in India could serve as an essential tool for cervical cancer control. [7]

In our study, 89.78% study subjects were currently married and rest were widows. Other studies also showed maximum married participants. Study by Tejal Suralkar et al[8] and Preethi et al also reported unmarried study subjects of 2.8% and 0.5% respectively. [9]

Most of the patients in our study were homemakers (60.58%) with 24.08% working in agricultural fields. Other studies also reported maximum homemakers.

About 83.21% of patients were found to be resident of rural part of Marathwada region while only 16.78% of patients were from urban region. Similar results were found in Study by Tejal Suralkar et al. [8] Study by Kumar Dron Shrivastav et al reported 66.9% urban and 33.09% rural population. [10]

Nearly 58.75% patients in our study had 3-4 children with 15.69% having >=5 children and only 0.72% were nulliparous. Neha Daliya et al reported 38.81% patients having 3-4 children and 54% having >=5 children. [11] In study by Justin O. Alegbeleye et al there were 74.4% patients having >=5 children. Preethi A et al reported 75.25% patients with 2-4 children with 15% having .4 children. [12]

Out of total patients only 4.01% had already taken some kind of cancer treatment before coming to this centre. Aanchal Jain et al [5] reported 23%, Tejal Suralkar et al [8] 17%, Preethi A et al [9]18.5% patients with prior treatment.

Stage-wise distribution of cervical cancer patients showed that a very small percentage of patients (3.28%) were diagnosed at early stage. Majority of the patients were diagnosed with Stage 2 (45.25%) or 3 (48.54%) disease. Similar stage-wise distribution has been reported in other studies (1,2,3,4,5,6). The probable causes for late presentation and poor prognosis of cervical cancer

among women are varied. They include lack of awareness among women, cultural factors, lack of centralized policies regarding cancer prevention and HPV vaccination.

Histologically, majority (93.79%) of our patients had squamous cell carcinoma which is similar to results obtained by Neha Dahiya et al [11] (97%), Tejal Suralkar et al (97%) [8], Preethi A et al (92%) [9]. Kumar Dron Shrivastav et al reported 63.2% patients of squamous cell & 25% of adeno carcinoma [10], which is similar to result of Justin O Alegbeleye et al (71.8% & 15.4%). [12]

Performance status was recorded based on Eastern Cooperative Oncology Group scale. The findings of performance status revealed that about 87.59% of patients were able to carry out all normal activities without restriction & only 1.09% were bedridden. Studies by Aanchal Jain et al [5]and Preethi A et al [9] reported 68% patients having normal activities without restriction and only <1% bedridden patients.

Most common presenting symptoms of cancer cervix patients included bleeding per vagina (46.35%), white and foul-smelling discharge (20.43%), back pain (12.04%), abdominal pain (9.85%) and post-coital bleeding (8.39%). Kumar Dron Shrivastav et al reported vaginal bleeding (25%), abdominal pain (22.1%), followed by white vaginal discharge along with foul smell (20.6%).[10] Neha Dahiya et al reported unusual discharge from vagina (73.13 %), postmenopausal bleeding (55.10 %), irregular vaginal bleeding (26.86 %) and pain abdomen (44.77 %). [11]A combination of vaginal bleeding, foul-smelling vaginal discharge, pelvic pain, and weight loss were the commonest (60.2%) presenting symptoms reported by Justin O Alegbeleye et al. [12] Most common symptom reported by Preethi A et al was bleeding per vaginum (81.25%) followed by abdominal pain (78.5%), white discharge (53.25%), loss of appetite and weight (49.5%), back pain (44%).[9] The clinical features of cervical cancer identified in the cases are typically seen in patients with advanced stages of the disease, as many women presented with the disease in later stages, where prognosis is generally poor and treatment options are limited.

About 25.52% of patients had one or more comorbid conditions, of which hypertension (17.15%) was the leading cause of comorbidity followed by diabetes (3.28%) which is similar to results obtained by Neha Dahiya et al (18% & 9%) [11], Aanchal Jain et al (13.98% & 4.05%) [5], Tejal Suralkar et al (7.1% & 2.8%) [8], Preethi A et al (16.75% & 16.5%).[9]

Stage of disease was found to be significantly associated with age (P<0.00001), parity (P<0.00830) and educational status (P<0.00001) in our study. Stage of disease was significantly associated with both age and educational status in

studies by Aanchal Jain et al (P<0.05), Tejal Suralkar et al (P=0.001, P=0.03) [8]and Preethi A et al (P<0.001, P=0.010). [9] In study by Kumar Dron Shrivastav et al stage of disease was significantly associated with both parity and educational status but not significantly associated with age. [10]

Conclusion:

This study highlights certain important baseline characteristics of cervical cancer. The study shows that cervical cancer was high among older, illiterate, rural women with high parity. The late-stage presentation of cervical cancer among most of the participants is of serious concerns for women's health. This basic information on profile of cases emphasises need of measures to catch cases at an early age, especially in married, rural and illiterate women for early detection of Cancer cervix in a socio-economically poor area.

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