



Socio-Demographic and Clinical Characteristics of Cancer Patients of Rangpur, Bangladesh

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Abstract

Background: Cancer is the 6th leading cause of death and accounts for 10% of all mortality in Bangladesh. Main workforce structure in the country, age from 30 to 65 years are affected mostly.

Materials and Methods: This was a cross sectional study, carried out in Department of Oncology of Rangpur Medical College Hospital. Cancer patients attending in OPD were included in this study.

Results: We have studied a total of 313 cancer patients, male were more than female (59.7% vs. 40.3%), mean age was 48.92 years. 82.7% pt were from rural area, 54.6% were illiterate and monthly income less than 5000 BDT in 85.9% cases. 54% of the patients were smoker and 8.3% patient used SLT (smokeless tobacco). Carcinoma of breast was the highest among all cancer 17.89%, which is followed by carcinoma of ovary 12.14%. But as a group majority of the cases were GIT cancer (oral cavity, tongue, esophagus, stomach, colon) 31.94% and respiratory tract cancer (larynx, lung) 23.64%. In male lung cancer (39.57%) and in female breast cancer (44.45%) was the most common cancer. Among the known risk factor of cancer-increasing age (mean age 48.92 years), smoking (54%) and radiation exposure (68%) were present. In our study, metastasis occurred at the time of diagnosis in 48.6% of the cases. 91.7% of the patients were suggested chemotherapy and the rest were both chemotherapy and radiotherapy.

Conclusion: Cancer is more common in older age, illiterate, poor socio-economic group and patient from rural area. Carcinoma of breast was the highest among all cancer. But as a group majority of the cases were GIT cancer. Approximately half of the cases were metastasized at the time of diagnosis.

Keywords: Cancer; Socio-demographic; Breast; Ovarian; Rangpur

Introduction

Cancer cases doubled globally between 1975 and 2000, will double again by 2020 and triple by 2030. The rapid increase in the global cancer burden represents a real challenge for health systems worldwide [1]. Globally, cancers in all forms are causing about 12% of all deaths. In developed countries cancer is the second leading cause of death accounting for 21% of mortality by other causes and in developing countries it ranks third, accounting for 9.5% of all deaths [2]. According to Bangladesh Bureau of Statistics cancer is the sixth leading cause of death in Bangladesh (BBS, 2004). International Agency for Research on Cancer (IARC) has estimated cancer-related death rate in Bangladesh to be 7.5% in 2005 and it will be increase to 13% in 2030 [3]. Recent studies conducted in Bangladesh revealed that nearly two million cancer patients currently exist in Bangladesh and every year about two hundred thousand patients are affected by cancer with death estimation of about 150,000 per year. At present, Bangladesh is known as the ninth most populous country in the world regarding cancer sufferings [4-6].

A WHO study estimates that there are 49,000 oral, 71,000 pharynx and laryngeal and 196,000 lung cancer cases in Bangladesh among those aged ≥ 30 years. The same study observed that 3.6% of the admissions in medical college hospitals for the same age group are due to cancers of oral cavity, larynx and lungs [3]. Although cancer is a devastating disease but it is largely preventable. If we have the adequate data about cancer patients, then by applying appropriate measures, a great impact on reducing the global cancer burden can be achieved. And one of the instruments for data collection of cancer patients is their registration [7]. Cancer registration is of two types-population based (PBCR)

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and Hospital Based Cancer Registry (HBCR). HBCR limits its aim to record the particulars of cancer cases seen in a given hospital or group of hospitals irrespective of boundaries of geographical areas. HBCR records all cases in a given hospital, usually without knowledge of the background population; the emphasis is on clinical care, regular routine follow up and hospital administration. It may also form the nucleus for PBCR. Therefore this study was undergone to determine the socio-demographic patterns of cancer patients.

Populations and Methods

This was a cross sectional study, carried out in Department of Oncology of Rangpur Medical College Hospital, Bangladesh from 2nd May, 2017 to 1st November, 2017. Assuming unknown prevalence of cancer in this region a sample size of 384 was calculated to give the true prevalence with a precision of 5% with 95% of confidence level. On an average about 30 patients visit to Department of Oncology. From the daily visited patients every 3rd patient was taken to generate sample of 384. The first patient was chosen randomly from cancer patients 1 to 10.

Data collection

A non-medical staff was trained to collect the data, who is not informed about the details of the study. An informed consent was obtained before enrollment. Data regarding attributes of social classes; education of the patients, occupation and per capita income were collected by face to face interview. Medical records of the patients were taken and examined from the register of medical records of Department of Oncology of Rangpur Medical College Hospital. After collection of data it was coded and checked manually, incomplete data sheets were removed; finally, we had 313 data to be analyzed.

Statistical analysis

Data analysis was done according to the objectives of the study by using SPSS-17.0 (Statistical Program for Social Science) software program. The result of the clinical study and statistical analysis is presented in the form of text, table, bar and chart.

Result

In this study, we have studied a total of 313 cancer patients of both sexes. Male were more than female (59.7% vs. 40.3%). Mean age of the study population was 48.92 years. (Table 1 shows the socio-demographic characteristics of the study population).

Fifty-four percent (54%) of the patients were smoker, among them 48.2% gave up smoking after diagnosis of cancer but 5.8% continued smoking and 8.3% patient used SLT (Smokeless Tobacco) in the form of jorda and gul.

Carcinoma of breast was the highest among all cancer 17.89%, which is followed by carcinoma of ovary 12.14%. But as a group majority of the cases were GIT cancer (oral cavity, tongue, esophagus, stomach, colon) 31.94% and respiratory tract cancer (larynx, lung) 23.64%. Among the GIT cancer, carcinoma oral cavity 36% was the maximum followed by carcinoma of the stomach 28%, carcinoma of the esophagus 18% and carcinoma of the colon 18%. Carcinoma of the larynx, supraglottic region and bronchial carcinoma was 72.98% and 27.02% respectively in respiratory tract cancer group.

Ninety-seven point one percent (97.1%) patients used to take vegetables every day. 39.9% patients took red meat once in a week either beefs or mutton. History of radiation exposure (X-ray) before diagnosis of cancer was 68.7% patients, majority 48.9% had history of

Table 1: Socio-demographic characteristics of the study population (n=313).

| Variables | Frequency | Percentage (%) |
|---------------------------|---|----------------|
| Mean age | 48.92 years (SD 14.29) (age range 22 to 75 years) | |
| Sex | | |
| Male | 187 | 59.70% |
| Female | 126 | 40.30% |
| Residence | | |
| Rural | 259 | 82.70% |
| Urban | 54 | 17.30% |
| Level of education | | |
| Illiterate | 171 | 54.60% |
| <5 class | 72 | 23% |
| 5-<10 class | 52 | 16.60% |
| >10 | 9 | 2.90% |
| Graduate and above | 9 | 2.90% |
| Occupation | | |
| Service | 9 | 2.90% |
| Business | 27 | 8.60% |
| Agriculture | 133 | 42.50% |
| Housewife | 117 | 37.40% |
| Others | 27 | 8.60% |
| Monthly income | | |
| <5000 taka* | 269 | 85.90% |
| >5000 taka | 44 | 14.10% |

*1 dollar = 82 taka

Table 2: Frequency of different malignancy (n=313).

| Name of cancer | Percentage/frequency |
|---|----------------------|
| Carcinoma of breast | 17.89% (56) |
| Carcinoma of ovary | 12.14% (38) |
| GIT cancer (oral cavity, tongue, esophagus, stomach, colon) | 31.94% (100) |
| Respiratory tract cancer (larynx, lung) | 23.64% (74) |
| Carcinoma cervix | 2.88% (9) |
| Carcinoma gall bladder | 2.88% (9) |
| Carcinoma of neck lymph node with unidentified primary site | 8.62% (27) |

Table 3: Risk factors of cancer.

| Risk factors | Percentage (frequency) |
|------------------------------|---|
| Age | 48.92 years (SD 14.29) (age range 22 to 75 years) |
| Smoking | 54% |
| History of taking added salt | 51.80% |
| Radiation exposure | 68.70% |
| Sun exposure | 80.20% |
| Obesity | 1.90% |
| Over weight | 16.60% |

one X-ray, 19.8% had history of 2 X-ray and 5.8% patients had history of 5 X-ray. 80.2% of the patient had history of sun exposure, among them 34.2% exposed in sun, up to 2 h/day, 20.1% was exposed 3 h/day and 5.8% exposed 5 h/day.

Among the study people majority were B⁺ blood group 43.1%, followed by A⁺ 25.2% and O⁺ blood group 17.3%. AB⁺, B⁻ and AB⁻ were in only 2.9%.

In our study, metastasis occurred at the time of diagnosis in 48.6% of the cases. 91.7% of the patients were suggested chemotherapy and the rest were both chemotherapy and radiotherapy.

Discussion

Cancer has been commonly noticed to develop in older people; and interestingly 78% of all cancer diagnoses are being conducted in people 55 years of age or older [8]. Two Hospital-based (The NICRH

and BSMMU) Cancer Registries in Bangladesh showed that 66% of the cancer patients are in the age group 30 to 65 years, the main workforce structure of a country [3]. Our study also found similar result, mean age of the cancer patient was 48.92 years. In our study male were more than female, similar findings were observed in a study done in Aizwal [9]. It has been seen that illiteracy has direct relation with the prevalence of certain cancers. Even in this study more than 54.6% patients were illiterate, followed by those who had only primary schooling. This could be ascribed to the fact that awareness pertaining to risk factors is less in illiterate people hence, were succumbing to cancer. The results of study done by Swaminathan [10] also corroborated that men and women who were illiterate had a higher overall cancer incidence rates compared to the educated population. In 85.9% of the patient's monthly income was less than 5000 BDT (59.52 USD), cancer management is costly in regards to drugs and radiotherapy, besides in our country Government's support is inadequate [3], so it's very difficult to complete the chemotherapy and/or radiotherapy regimen for most of the patients.

According to cancer awareness foundation [11], top five cancer of our country (according to incidence) are esophageal (13.9%), oral (8.9%), breast (8.5%), lungs (8.2%) and cervix & uterus (5.4%); our study findings were contradictory to their findings. Among all cancer, carcinoma of breast was the highest 17.89% followed by carcinoma of ovary 12.14%, but as a group GIT malignancy which includes oral cavity, tongue, esophagus, stomach, and colon were maximum 31.94%. Tobacco consumption remains the most important avoidable cancer risk. Between 25 and 30% of all cancers in developed countries is tobacco-related [12]. Smoking is indeed the most important risk factor for lung cancer, throat cancer, urinary bladder cancer, myeloid leukemia, and pancreatic cancer too [8,13-16]. Another study of Trivandrum, India emphasized that smoking increased the risk of oral cancer in men by as much as 90% [17]. In our study smoking in males was more as compared to that in females. Similar findings were evident in another research done by Murthy [18]. They also showed that the major risk factors for cancer were tobacco, alcohol consumption, infections, dietary habits and behavioral risk factors. In our study 8.4% patient used to chew tobacco leaf in the form of jorda and gul, this may be one of the causes of higher incidence of oral cancer in this region. The NICRH and BSMMU cancer registry data revealed that 60% of the cancers in the male and 5% of the cancers in female are tobacco related and hence entirely avoidable [19]. So, tobacco control may be one of the most important steps to prevent cancer. Though exposure to ionizing radiation is known to increase the risk of most types of leukemia [8] in our study radiation exposure (X-ray) before diagnosis of cancer was found in 68.7% patients in the form of diagnostic X-ray.

Two hospital-based study of our country revealed that disease with distant metastasis at the time of diagnosis is <15% [3]. But in our study distant metastasis was 48.6% of the cases. This may be due to the ignorance of the people, delayed presentation and/or poor medical facilities to diagnose cancer at the vicinity. Improve cancer awareness of the people and improving medical facilities may diagnose the cancer at its earliest form.

Conclusion

Cancer is more common in older age, illiterate, poor socio-economic group and patient from rural area. Carcinoma of breast was the highest among all cancer. But as a group majority of the cases were GIT cancer. Approximately half of the cases were metastasized

at the time of diagnosis.

Ethical Consideration

The ethical committee of Rangpur Medical College has approved the study protocol and questionnaire on 12th February, 2017.

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