

## A cross-sectional health survey on prostate cancer patients in Bangladesh

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### Abstract

Prostate cancer becomes one of the most common malignancies in men worldwide including Asia. It is the second most common cause of cancer and the sixth leading cause of cancer death among men worldwide. The people of Bangladesh are also greatly affected with this fatal disease as most of the people are not properly aware of this disease. Therefore, it becomes utmost important to picturize the reality and extent of awareness about Prostate cancer among the men of Bangladesh who makes up the greater part of population. From the survey study we tried to get some important information reflecting the current status and awareness of the people about Prostate cancer. From the study we observed that men having age range 46 – 50 are mostly affected as 34% patients were in this age range. The results also revealed that, 82% patients had no genetically relationship for the possibility Prostate cancer. Most of the patient got the knowledge about Prostate cancer from the family but they didn't have information from the most popular informative sources like TV, radio, posters etc. All of these data reveals that people of Bangladesh are not properly aware of Prostate cancer and government should conduct more programs to make them enough aware about this disease which will reduce the percentages of the patients having Prostate cancer.

**Keywords:** prostate cancer, information source, genetic linkup, smocking

### Introduction

Cancer is a major health burden worldwide. By 2030, over 9 million cancer patients are assumed to die in developing countries from different types of cancers <sup>[1]</sup>. Prostate cancer is the sixth most common cancer in the world, the second most common cancer in men, and the most common cancer in men in Europe, North America, and parts of Africa <sup>[2-3]</sup>. The number of new cases estimated was 513,000 patients in 2000, while the number of new cases estimated was 1.1 million people in 2012. This suggests an increased incidence of prostate cancer in the past decade <sup>[4-5]</sup>. It is expected that by 2030, 1.7 million new cases and 499,000 deaths will occur in the entire world <sup>[6]</sup>. The cancer will be known as the most common cancer in men in the future <sup>[5]</sup>. This cancer includes 15% of all new cancer cases in men. Approximately 70% of all new cases of the cancer occur in developed countries <sup>[4]</sup>. The incidence rate of prostate cancer differs about 50 times in various populations. A total of 191,054 prostate cancer cases were recorded in Asian countries in 2012. The five countries with the highest number of patients were Japan (55,970 cases), China (46,745 cases), India (19,095 cases), Indonesia (13,663 cases), and Turkey (12,650 cases), respectively. Among Asian countries, the five countries with the highest standardized incidence rates of prostate cancer were: Israel with 843, Turkey with 406, Lebanon with 372, Singapore with 331, and Japan with 304 per millions of people. The five countries with the lowest standardized incidence rates of the cancer were Bhutan with 12, Nepal with 15, Bangladesh with 17, Uzbekistan with 20, and Turkmenistan with 21 per millions of people <sup>[7]</sup>.

Cancer is the sixth common cause of mortality in Bangladesh and 60% of cancer patients die within five years of diagnosis <sup>[8]</sup>. In developed countries, prostate cancer is the most common cancer in men, while in less developed countries, the incidence is lower than that of other cancers <sup>[9]</sup>. This relationship can also be considered in the context of socioeconomic in communities. People with a higher socioeconomic level have a higher incidence of the cancer <sup>[10]</sup>. Several studies suggest an impact of awareness and level of income on the distribution of mortality from this type of cancer. People with a low awareness and low incomes are more likely to die from prostate cancer. These factors are barriers to treatment of cancer in these individuals <sup>[11-12]</sup>. The incidence of prostate cancer is directly correlated with age. In other words, incidence of this cancer increases with the increase in life expectancy <sup>[13]</sup>.

It is not known exactly what causes prostate cancer, although a number of things can increase risk of developing the condition.

These include:

- **Age:** Prostate cancer has been known as a disease of elderly men. Risk rises as someone get older and most cases are diagnosed in men over 50 years of age. After this age incidence increases exponentially, and the rate of increase is faster than that seen in other malignancies <sup>[14]</sup>.
- **Ethnic group:** Prostate cancer is more common among men of African-Caribbean and African descent than in men of Asian descent <sup>[15-16]</sup>.
- **Family history:** Having a brother or father who developed prostate cancer under the age of 60 seems

to increase the risk of developing it. Research also shows that having a close female relative who developed breast cancer may also increase risk of developing prostate cancer [17-19].

- **Bladder cancer:** There is an association between bladder and prostate cancer. According to Chun TY, (1997) the rate of prostate cancer in patients with bladder cancer is 19-fold higher than in those without bladder cancer [20-22].
- **Vasectomy:** Vasectomy may be associated with an increased risk of prostate cancer, by either increasing serum androgen level or inducing an immunologic reaction. However, the relationship between vasectomy and prostate cancer remains unclear [23-25].
- **Exercise:** Men who regularly exercise have also been found to be at lower risk of developing prostate cancer [26].
- **Sexual behavior:** There is possible relationship between sexual behavior and the development of prostate cancer. Some authors suggested that prostate cancer was related to early intercourse, number of sexual partners, or venereal disease [27].
- **Obesity:** Recent research suggests that there may be a link between obesity and prostate cancer [26].
- **Diet:** Research is ongoing into the links between diet and prostate cancer. There is evidence that a diet high in calcium is linked to an increased risk of developing prostate cancer [26].
- **Tobacco/Smocking:** Tobacco is the single most important modifiable risk factor for prostate cancer [28].

**Materials and Methods**

**Setting and Design**

A prospective study was conducted during the months June to July 2015 at 5 renounced hospital in Bangladesh. This study was conducted by the collaboration of Primeasia University and Varendra University, Rajshahi. A structured questionnaire was designed by the investigators and the survey team was guided before the study. The survey group comprised of 3 teachers and 5 students. The Survey was done on both the indoor & outdoor patients receiving treatment from the hospitals. Exactly 100 patients were collected from these hospital and other places.

**Data Collection**

Data were collected from the patients by random selecting the patient from the hospitals. The data collectors were waiting in front of the hospital and convince the patients who are suffering prostate cancer to produce their prescription data to the interviewers as well as participated in the interview session. The language of the questionnaire was English which is translated to Bengali language by the data collectors to the participants whom mother tongue is Bengali language. The Bengali answers given by the respondents translated to the English languages in the same way by the data collectors. Written consent was taken from each patient during this study. Few questionnaires were excluded during the data analysis because of insufficient information.

**Statistical Analysis**

Descriptive statistics were applied to the collected data using Microsoft Excel 2013 software.

**Ethical Considerations**

The study was conducted following the general principles (section 12) of WMA declaration of Helsinki. The human subjects involved in this study did not use any hazardous agents and samples were not collected from them. As the human subjects only participated in the interview, this survey based research didn't take any further approval from institutional ethics committee.

**Results and Discussion**

Prostate cancer is associated with a large dispersion in incidence and death in Asian countries. The evidence suggests an increase in the burden of disease in this region in the future [9]. More than 60% of the world's population lives in Asia, and most countries in the region are developing. The cancer in the continent is expected to dramatically increase. Therefore, health macro policies to deal with this cancer in the future are an important requirement [29].

**Age distribution**

Survey on patients showed that 34% patient has been affected by prostate cancer and prostate infection problem in the age of 46 – 50, and then 16% patient has been attacked with prostate cancer in the age of 51 – 55. The crucial age for the prostate cancer is 40 – 50 [14]. Similar results was also found in Bangladesh by a survey conducted by Delta Medical College and found that highest numbers of patients were in 41-60 years age group (54.38%), followed by in age group of 21-40 years (26.15%) suffers from cancer [1]. Age differentiation has been shown in Figure1.

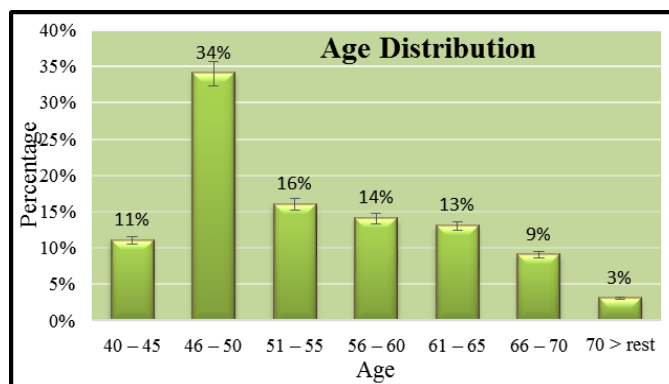


Fig 1: Age distribution of patients.

**Smoking habits**

Tobacco smoke contains approximately 4000 chemicals, of which at least 438 can cause cancer. Tobacco is the most important modifiable risk factor for cancer [28]. It is observed that, 67% patients has the habit of smoking, 14% used to smoke but quit & 19% have never smoke, which has been shown on Figure 2. A WHO study showed that 20 million people in Bangladesh use tobacco in some form, including five million women and 57,000

people die every year due to tobacco-related diseases. Smoking prevalence in Bangladesh is 41% among men aged 15 years and over. In women, it was 1.8% among those aged 15 years and over [8].

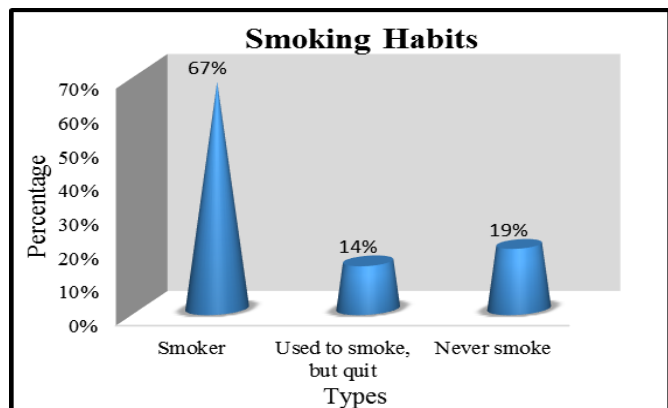


Fig 2: Smoking habits of patients.

**Genetically tracking**

Most prostate cancers aren't caused by inherited cancer genes and most men who get prostate cancer don't have a family history of it. But sometimes prostate cancer can run in families. It is noticed that, 82% patients, who has no genetically relation with prostate diseases. About 11% patient has been found that, their father also have the prostate gland problem.

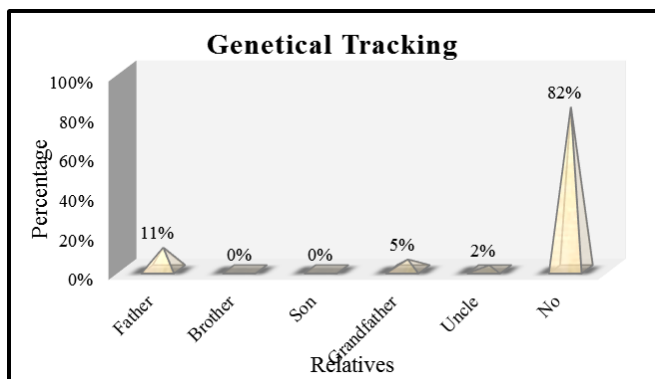


Fig 3: Genetic tracking of patient.

**Information source of patient**

The patients has got information about cancer from family member, friends, and various news media such as poster, TV and newspaper, which has been shown in the Figure 4.

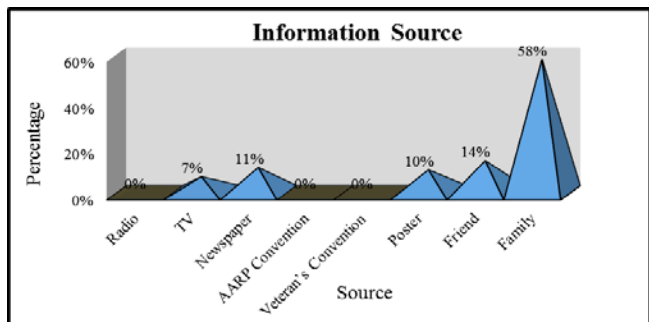


Fig 4: Information source of patient.

**Frequency of problems faced by patients**

The patients are facing various problems such as difficult to postpone urination, stopped and started urination, blood in urine, weak urinary stream and frequent urination. The frequency of problem faced by patients of prostate diseases has been shown in Table 1.

Table 1: Frequency of problems faced by patients

| Problems                                | Number of Patient | Percentage |
|---|-------------------|------------|
| Difficult to postpone urination         | 10                | 10%        |
| Stopped & Started again while urinating | 18                | 18%        |
| Blood/Pus in urine                      | 08                | 8%         |
| Pushing or straining to start urinating | 23                | 23%        |
| Weak urinary stream                     | 27                | 27%        |
| Urinating again within 2 hours          | 14                | 14%        |

**Commonly taken medication**

Survey on 100 patients showed that, 28% of the patient has been medicated by Sulfamethoxazole + Trimethoprim and 13% of the patient has been medicated by Ciprofloxacin. Beside these following medication commonly taken by patient, such as Norfloxacin – 6%; Ofloxacin – 6%; Docetaxel – 2%; Oxaliplatin – 2%; Doxorubicin – 2% & Ceftriaxone – 2%. Beside these many others (39%) drug has been used for the treatment. Medications commonly taken by the patient has been shown in the Figure 5.

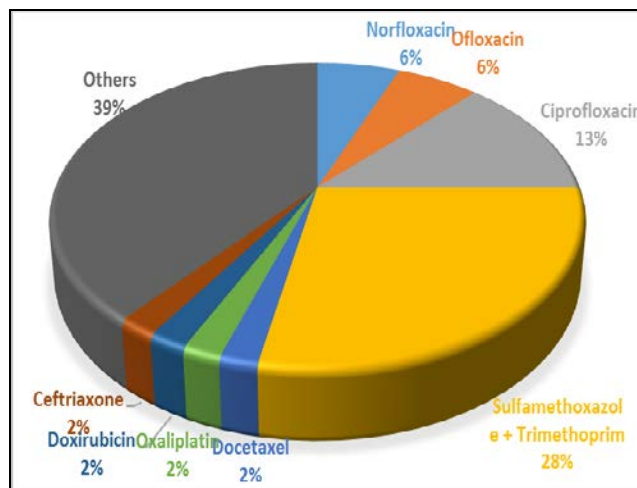


Fig 5: Commonly used drug by the patients.

**Conclusion**

Cancer is a major cause of death worldwide including Bangladesh. Incidence of different cancers is increasing day by day. Cancer has a huge personal, social and economic bearing. Prostate cancer incidence rates are increasing all around the world. This increase in incidence affects all age groups and is more pronounced in younger men. Based on the additional effect of increased life expectancy, epidemiologic estimates show that prostate cancer is on the verge of becoming one of the world's leading health issues. This trend has generated worldwide epidemiologic studies, providing

important data and contributing to the better understanding of prostate cancer natural history.

### Competing interest

The authors have declared that they have no competing interests exist. The research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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