FACTSON PROSTATE CANCER

By

Udoma, Christiana Aniekan

Amaowoh, Uduakobong Godwin

And

Eyo, U. E.
Department of Human Kinetics and Health Education
Faculty of Education
University of Uyo, Uyo

ABSTRACT

The study assessed the factors of prostate cancer and it found out that prostate cancer is one of the leading causes of cancer deaths worldwide. Although the exact cause of prostate cancer is unknown, it is however associated with a number of risk factors. Some established risk factors include advancing age, black race, a family history of prostate cancer and certain genetic polymorphisms. Many prostate cancers grow slowly and are confined to the prostate gland, where they may not cause serious harm. However, while some types of prostate cancer grow slowly and may need minimal or even no treatment, other types are aggressive and can spread quickly. The study has also showed that Cancer of the prostate is the most common type of cancer (excluding skin cancer) among American and African men. The symptoms of prostate cancer includes trouble urinating, decreased force in the stream of urine, blood in the urine, bone pain, losing weight without trying and erectile dysfunction. The study has also highlighted the risk factors; the diagnosis the management and treatment of prostate cancer. On this basis the study concluded that many prostate cancers grow slowly and are confined to the prostate gland, where they may not cause serious harm. However, assessing the knowledge, practice and uptake of screening for prostate cancer among at-risk men in the community remains pivotal in improving screening practices, early detection and treatment. One of the recommendations made was that they should be a Mass sensitization, awareness creation and educational programme should be provided to the people by the local authorities in collaboration with the Ministrya of Health at National and state levels and healthcare providers on the effect of prostate cancer.

KEYWORDS: Facts, Causes, Symptoms, Risk Factors and Prostate Cancer

INTRODUCTION

Prostate Cancer is Cancer that originates in the prostate gland, a male genital gland about the size of a walnut that is located in front of the rectum, behind the base of the penis, and under the bladder. The prostate gland surrounds the upper part of the urethra, the tube that carries urine and semen out of the penis. Because of its location, a physician can directly examine the part of the gland where most tumors occur.In most cases, prostate cancer grows slowly. Some prostate cancers are aggressive, spreading rapidly to other organs and the bones.

Prostate cancer is a leading cause of cancer death worldwide. Cancer is a disease in which cells in the body grow out of control. When cancer starts in the prostrate, it is called prostate cancer. The prostrate is a small walnut-shaped gland in males that produces the seminal fluid that nourishes and transports sperm. This paper looks into the definition of prostate cancer, causes, symptoms, prevention, management and treatment of prostate cancer. There is no exact cause of prostate cancer. It is however associated with a number of risk factors. Some established risk factors include advancing age, black race, family history of prostate cancer, certain genetic polymorphisms and lack of awareness. It is therefore recommended that continuous dissemination of information on prostate cancer will help to address the issues related to prostate cancer.

Cancer is a disease in which cells in the body grow out of control. When cancer starts in the prostate, it is called prostate cancer. The prostate is a small walnut-shaped gland in males that produces the seminal fluid that nourishes and transports sperm. Prostate cancer is one of the leading causes of cancer deaths worldwide. Prostate cancer is one of the most common types of cancer (Rubai, 2017). Many prostate cancers grow slowly and are confined to the prostate gland, where they may not cause serious harm. However, while some types of prostate cancer grow slowly and may need minimal or even no treatment, other types are aggressive and can spread quickly. Prostate cancer that is detected early and when it is still confined to the prostate gland has the best change for successful treatment (Agbugui&Nwagui, 2017). Even when prostate cancer has spread to other parts of the body, it often can be managed with treatment for a long time. Prostate cancer that spreads to the bones can cause pain and broken bones. Once prostate cancer has spread to other areas of the body, it will still respond to treatment and may be controlled, but it's unlikely to be cured. Both prostate cancer and its treatment can cause urinary incontinence.

According to the World Health Organization (WHO, 2019), prostate cancer was the third most common diagnosed malignancy in 2020 with 1,414,259 cases (7.3% of the total). The burden of prostate cancer is further expected to grow to 1.7 million new cases and 499,000 new deaths by year 2020. While various epidemiological data support the high incidence and mortality of this malignancy amongst the blacks, observations from developed countries such as United States of America, Australia and Canada demonstrate a decrease in prostate cancer incidence due to multifactorial reasons, but believed to be primarily linked to improved screening uptake in these populations. In contrast, there is a rising incidence with increased mortality reported in developing countries were most cancer victims are diagnosed at advanced stage (Otunla, 2018). This highlights the need for increased awareness, better education and increased uptake of screening programs in these populations. Prevalence rates of prostate cancer within African show that Nigeria is ranked among the countries with the highest prevalence of prostate cancer (Seraphin, 2021).

According to Mofolo (2015), a careful study of prostate cancer shows that it is gradually taking a prominent position as an emerging epidemic in Nigeria. It is reportedly now as the most commonly diagnosed malignancy among men with an annual age-adjusted incidence and mortality rates estimated at 22.7 and 18.6 per 100,000, respectively. This accounts for 18.2 percent and 17.7 percent of all cancer-related diagnoses and deaths, respectively, in men in Nigeria. In addition, given Nigeria's status as the most populous country in Africa with an estimated population of over 200 million in 2022, the rates and percentages above translate to a significant

burden in absolute numbers of men affected by prostate cancer (Agalliu&Adebiyi, 2015).

WHO GETS PROSTATE CANCER?

Cancer of the prostate is the most common type of cancer (excluding skin cancer) among American and African men. The number of cases that have been found during the past decade has increased dramatically, largely due to improve detection. Now that there is a blood test (the prostate-specific antigen, or PSA test) that is widely used to screen for prostate cancer, it is expected that even prostate cancer affects thousands of lives.

The highest incidence of prostate cancer is in North America and northwestern Europe. It occurs in Asia, Africa, Central America, and South America, though on the rise now.

The way the prostate cancer is distributed among these populations suggests that diet may play a role in the development of this disease, especially if diet affects the level of hormones in men.For reasons that have not yet been identify, the highest incidence rates of prostate cancer in the world are among African-American men.

CAUSES OF PROSTATE CANCER

Although the exact cause of prostate cancer is unknown, it is however associated with a number of risk factors. Some established risk factors include advancing age, black race, a family history of prostate cancer and certain genetic polymorphisms. Asymptomatic men with prostate cancer however, can be detected via screening for prostate cancer which include measurement of serum prostate specific antigen (PSA) and digital rectal examination (DRE). Studies estimate that one-third of the cases of prostate cancer can be prevented and another third can be cured if detected early through screening (Seraphin, 2021). According to Ikuerowo and Omisanjo (2019), men's intention to screen for prostate cancer have reported variable in findings with screening intentions in some populations as low as 28%. The knowledge of prostate cancer among Nigerian men is reportedly poor and routine prostate cancer screening is uncommon in Nigeria despite the rising incidence of the disease.

Prostate cancer develops in the prostate gland, a part of the reproductive system in men. Brown and Kuminye (2020) also reported that there is no sure causes of prostate cancer. As with cancer in general, prostate cancer forms when cells divide faster than usual. While normal cells eventually die, cancer cells do not. Instead, they multiply and grow into a lump called a tumor. As the cells continue to multiple, parts of the tumor can break off and spread to other parts of the body (metastasis). Luckily, prostate cancer usually grows slowly. Most tumors are diagnosed before the cancer has spread beyond the prostate. Prostate cancer is highly treatable at this stage.

Experts like Fashiola and Tanko (2018) also reported that it is not known exactly what causes prostate cancer, although a number of factors can increase the risk of developing the condition. These include: age – the risk rises as one gets older, and most cases are diagnosed in men over 50 years of age. Ethnic group – prostate cancer is more common in black men than in Asian men. Factors linked to aging and changes in the cells of the testicles may have a role in the growth of the gland, as well as testosterone levels. Men who have had their testicles removed at a young age (for example, as a result of testicular cancer) do not develop BPH. The cause of prostate cancer according

to Susan (2021) is also linked to family history, inherited faulty genes, obesity and weight, beign taller and hormone levels.

Assessing the knowledge, practice and uptake of screening for prostate cancer among at-risk men in the community remains pivotal in improving screening practices, early detection and treatment. Despite reported increasing awareness of prostate cancer among high risk population in Nigerian communities, barriers such as ignorance, poverty, absence of screening programs, lack of health education, inadequate diagnostic facilities and assumption that lower urinary tract symptoms are part of normal ageing process prevent many men from early screening hence, late presentation with advanced disease.

Cancer begins when healthy cells in the prostate change and grow out of control, forming a tumor. A tumor can be cancerous or benign. A cancerous tumor is malignant, meaning it can grow and spread to other parts of the body. A benign tumor means the tumor can grow but will not spread. Prostate cancer is unusual when compared with other types of cancer. This is because many prostate tumors do not spread quickly to other parts of the body. Some prostate cancers grow very slowly and may not cause symptoms or problems for years or ever. Even when prostate cancer has spread to other parts of the body, it often can be managed with treatment for a long time. Franklyn (2020) reported that people with prostate cancer, and even those with advanced prostate cancer, may live with good health and quality of life for many years. However, if the cancer cannot be well controlled with existing treatments, it can cause symptoms like pain and fatigue and can sometimes lead to death. An important part of managing prostate cancer is watching for growth over time to find out if it is growing slowly or quickly. Based on the pattern of growth, doctor can decide the best available treatment options and when to give them.

Histology is how cancer cells look under a microscope. The most common histology found in prostate cancer is called adenocarcinoma. Other, less common histologic types, called variants, include neuroendocrine prostate cancer and small cell prostate cancer. These variants tend to be more aggressive, produce much less prostate-specific antigen (PSA), and spread outside the prostate earlier (Lewis and Agbo, 2018). Neuroendocrine tumors are cancers that begin in specialized cells called neuroendocrine cells. Neuroendocrine cells have traits similar to those of nerve cells and hormone-producing cells. Neuroendocrine tumors are rare and can occur anywhere in the body.

SYMPTOMS OF PROSTATE CANCER

Prostate cancer may cause no signs or symptoms in its early stages. Early prostate cancer usually causes no symptoms. It is not common because symptoms of early prostate cancer might include: Problems in urinating, including a slow or weak urinary stream or the need to urinate more often, especially at night, blood in the urine or semen (Guard, 2018). According to Blackin (2019), prostate cancer that is more advanced may cause signs and symptoms such as:

i. Trouble urinating
ii. Decreased force in the stream of urine
iii. Blood in the urine
iv. Blood in the semen
v. Bone pain
vi. Losing weight without trying

vii. Erectile dysfunction

Experts know that prostate cancer begins when cells in the prostate develop changes in their DNA, A cell's DNA contains the instructions that tell a cell what to do. The changes enable the cells to grow and divide more rapidly than normal cells do. The abnormal cells continue living, when other cells would die. The accumulating abnormal cells form a tumor that can grow to invade nearby tissue. In time, some abnormal cells can break away and spread (metastasize) to other parts of the body (Ugochukwu&Odukoya, 2022).

RISK FACTORS

The risk of developing prostate cancer increases greatly with age. More than 75 percent of all prostate cancers are diagnosed in men over the age of 65. Apart from age, little is understood about what puts a man at risk for prostate cancer or what puts African – American at highest risk of developing the disease. Also at higher risk are men who have a history of prostate cancer in close family members, for example, a brother or father. Research is under way to study the genetic basis of racial and familial differences in prostate cancer risk.

A high-fat diet is associated with an increased risk of developing prostate cancer. Some research has suggested that vasectomy (surgery that makes a man infertile) might increase the risk of prostate cancer, but so far this link has not been proven.

THE BEST DEFENSE: EARLY DETECTION

The earlier prostate cancer is discovered, the better the chances are that it can be treated effectively. If the tumor has not spread outside of the prostate gland to other areas of the body, the chances are good for a long-term survival, that is, living for many years with a good quality of life. Once the tumor has begun to spread, it is more difficult to treat.

There are two tests commonly used to detect prostate cancer, the PSA blood test (PSA stands for prostate-specific antigen) and the digital rectal exam (DRE) of the prostate gland. For the DRE, the health care professional inserts a gloved, lubricated finger into the rectum to feel any irregular or abnormally firm area, which may indicate that a tumor is present. Most prostate gland can be reached by a DRE. This exam also helps to detect early rectal tumors. The procedure may be a bit uncomfortable, but it only takes a short time. Talk with your health care professional about when to begin these tests. If either the PSA blood test or the DRE has an abnormal finding, further medical evaluation is needed.

CONFIRMING THE DIAGNOSIS OF PROSTATE CANCER

If the results of a PSA blood test or digital rectal examination suggest the possibility of prostate cancer, your doctor may refer you for further testing. A diagnosis of prostate cancer is usually confirmed by a biopsy of the prostate gland.

A biopsy is a surgical procedure in which small samples of prostate tissue are removed and examined under a microscope. The procedure can be done in the physician's office. Actual biopsies take seconds, although the whole procedure from beginning to end will take a little less than half an hour. Most of this time is spent on getting the individual ready for the procedure.

To perform the biopsy, a thin needle is inserted through the wall of the rectum into the area of the prostate gland that appears abnormal or suspicious. Placement of the needle is guided by the physician's finger or a device called a transrectal ultrasound. When the needle reaches its target, a small amount of tissue is collected.

The tissue sample is sent to the laboratory and examined to see if cancer is present. If cancer is detected, additional tests to determine the stage of the disease will be done. The stage of the cancer indicates if the tumor is still confined to the prostate gland or if it has spread to other parts of the body. The grade of the cancer is also important. Grade helps determine whether it is likely to be aggressive (fast growing wit a tendency to spread) or slow growing.

MANAGEMENT AND TREATMENT

The management of prostate depends on multiple factors, including the overall condition, if the cancer's spread and how fast it is spreading. Depending on the treatments, various healthcare providers may be involved, including urologists, radiation oncologists and medical oncologists. Most prostate cancer diagnosed in the early stages can be cured with treatment. According to Betshu and Kenna (2015), specific procedures used are:

- **Surveillance:**

During surveillance, the healthcare provider may monitor the condition of the disease instead of providing treatment if the cancer grows slowly and does not spread. There are two types of surveillance, which include active and watchful waiting surveillance. Active surveillance works best if the cancer grows slowly, is only in the prostate and is not causing symptoms. If the condition become worsens, the provider can start treatments. Watchful waiting is similar to active surveillance, but it is more commonly used for people who are frailer with cancer that likely won't go away with treatment. Also, testing is much less frequent. Instead of eliminating the tumor, treatments usually focus on managing symptoms.

- **Surgery:**

A radical prostatectomy removes a diseased prostate gland. It can often successfully eliminate prostate cancers that have not spread. The provider can recommend the best removal method if they believe the patient benefit from this surgery (Lewis &Agbo, 2018). The form of surgery for prostate cancer includes open radical prostatectomy and robotic radical prostatectomy. During open radical prostatectomy, the provider makes a signle cut (incision) into the abdomen – from patient'[s belly button to public bone – and removes the prostate gland. This technique is not as common as less-invassive methods like robotic prostatectomy (Agbugui&Nwagui, 2017). Robotic radical prostatectomy allows the provider to perform surgery through several tiny incisions. Instead of operating directly, they operate a robot system via a console.

- **Radiation therapy:**

The person involve in prostate cancer may receive radiation therapy as a standalone treatment for prostate cancer or in combination with other treatments. Radiation can also provide symptom relief (Agbygui&Nwagui, 2017). Brachytherapy and external beam radiation therapy are forms of radiation therapy. Brachytherapy involves placing radioactive seeds inside the prostate. This approach kills cancer cells while preserving surrounding healthy tissue. With external beam radiation therapy (EBRT), a machine delivers strong X-ray beams directly to the tumor. Specialized forms of EBRT, like IMRT – can direct high doses of radiation toward the tumor while sparing healthy tissues.

- Systemic therapies:

The health provider may recommend systemic therapies if cancer has spread outside the patient's prostate gland. Systemic therapies send substances throughout the body to destroy cancer cells or prevent their growth. Hormone therapy is one of the systemic therapies (Lewis &Agbo, 2018). The hormone testosterone boosts cancer cell growth. Hormone therapy uses medications to combat testosterone's role in fueling cancer cell growth. The medicines work by preventing testosterone from reaching cancer cells or by reducing the testosterone levels. Alternatively, the provider may recommend surgery to remove the testicles (orchiectomy) so they can no longer make testosterone (Lewis &Agbo, 2018). This surgery is an option for people who do not want to take medications. Other forms of systemic therapies for prostate cancer include chemotherapy, immunotherapy, targeted therapy and focal therapy.

PREVENTION

Early screening and detection of prostate cancer is one of the best ways of reducing prostate cancer related deaths (Landier, 2015). Yet, prostate cancer cases are reported in the late stages of the disease, mostly due to lack of awareness, inadequate knowledge about the disease, unavailability of screening facilities, absence of adequate educational programs and interventions which are known to increase awareness and prostate cancer knowledge levels (Wilkinson, List, & Sinner, 2017). Inadequate knowledge about prostate cancer has widely been identified. Wilkinson, List, and Sinner (2017) reported low levels of knowledge on symptoms, screening and the treatment of prostate cancer.

Since so little is known about what causes prostate cancer, it is not possible to say how to prevent it. Reducing fat intake, however, especially saturated fat from red meat and daily products, is a smart move for every man to make. A low fat, high-fiber diet that includes plenty of fruits and vegetables is recommended to lower the risk for many types of cancer, and can reduce the risk of heart disease, stroke, and diabetes as well.

CONCLUSION

The study concludes that Prostate cancer is one of the most common types of cancer. Many prostate cancers grow slowly and are confined to the prostate gland, where they may not cause serious harm. However, assessing the knowledge, practice and uptake of screening for prostate cancer among at-risk men in the community remains pivotal in improving screening practices, early detection and treatment. Despite reported increasing awareness of prostate cancer among high risk population in Nigerian communities, barriers such as ignorance, poverty, absence of screening programs, lack of health education, inadequate diagnostic facilities and assumption that lower urinary tract symptoms are part of normal ageing process prevent many men from early screening hence, late presentation with advanced disease.

RECOMMENDATIONS

Based on the reviews of the study, it is recommended that

- Mass sensitization, awareness creation and educational programme should be provided to the people by the local authorities in collaboration with the Ministry

of Health at National and state levels and healthcare providers on the effect of prostate cancer.

- Government can also encourage screening by making screening free or highly subsidizing its cost hence breaking the barrier to prostate cancer utilization imposed by costs.
- Continuous dissemination of information on prostate cancer will help address the issues related to prostate cancer.
- The key to reduction of the massive morbidity and mortality of prostate cancer lies on early detection and treatment. For early detection and treatment to be feasible, the level of knowledge (about screening and treatments) possessed by the average Nigerian must increase exponentially. This would in turn lead to positive perception and attitude towards screening and treatment of these diseases.
- Concerned bodies including the government need to make favourable policies, which border on promotion of health education on prostate cancer. Establishment of centres for prostate cancer screening and possibly, institution of free prostate cancer screening services for men and 50 years and above.
- Periodic assessment of the level of knowledge and attitudinal disposition of Nigerians to screening and treatment of prostate cancer would also be beneficial.

REFERENCES

Agalliu, V., &Adebeyi, R. (2015). What we thought we knew: African American males' perceptions of prostate cancer and screening methods. *Journal of Health Education*, 1(3), 50-60.

Agbugui, J. & Nwajei, C. (2017). Awareness and knowledge of prostate cancer among men in Benin City, Nigeria. *Journal of Medicial Biomed Resources*, 3(12), 42-47.

Betshu, F., & Kenn, J. (2015). Roots of prostate cancer in African-American men. *Journal of National Medical Association*, 8(3), 539-543.

Blackin, F. (2019). Assessing GP attitudes towards prostate cancer screening among 500 general practitioners in the Sydney southwestern local health district. *Journal of Health Education*, 11(3), 1-15.

Brown, C., & Kuminye, S. (2020). Prostate cancer knowledge among low-income minority men. *Journal of Urology*, 12(7), 28-37.

Franklyn, S. (2017). Comparative study of prostate screening health beliefs and practices between African-American and Caucasian men. *International Journal of Health Education*, 22(13), 61-73.

Fashiola, J., & Tanko, F. (2018). Estimates of worldwide burden of cancer. *International Journal of Medical Diagnosis*, 12(7), 28-37.

Iuorowo, G., & Omisanjo, D. (2019). Benign prostatic hyperplasia and prostate carcinoma in native Africans. *BJU Int.* 2000, 85: 1074-7.

Landier, Y. (2015). Population-based study of long-term survival in patients with clinically localized prostate cancer. *Lancer*, 19(3), 1-10.

Lewis, M., & Agbo, A. (2018). Correlates of actual and perceived knowledge of prostate cancer among African-Americans. *Cancer Nurses*, 20(24), 65-77.

Mofolo, N. (2015). Knowledge of prostate cancer among males attending a urology clinic. A South African study. *Springerplus*, 15(2), 54-67.

Otunla, A. (2018). Review of prostate cancer research in Nigeria. *Infection Agent Cancer*, 20(11), 10-20.

Seraphin, M. (2020). Knowledge and attitudes of men about p prostate cancer. *Medical Journal Australia*, 8(1), 1-14.

Susan, N. (2021). Prostate cancer in Port Harcourt, Nigeria, features and outcomes. *Nigerian Journal of Surgeon Resources*, 20(4), 34-44.

Ugochuwu, H., & Oduweoya, K. (2022). Knowledge, attitudes and practices of Ugandan men regarding prostate cancer. *African Journal of Urology*, 13(19), 165-175.

Wilkinson, P. List, G., & Sinner, E. (2017). The management of early prostate cancer: a review. *Eat Africa Medical Journal*, 8(4), 24-30.

World Health Organization (WHO, 2019). Knowledge of prostate cancer screening among native African urban population in Nigeria. *Nigeria Quarterly Journal*, 20(20), 94-105.