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## **Factors of Increasing Benign Prostatic Hyperplasia in Saudi Arabia**

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### **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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### **ABSTRACT**

Benign prostatic hyperplasia (BPH) is one of the conditions known as prostate growth that accompanied by the lower urinary tract symptoms. There are many researches that were conducted in Saudi Arabia in order to identify the most important factors that are working in increasing this disease. Most of the conducted studies have stated that there is a strong relation between age, metabolic syndrome, inflammation, hormonal alterations, and benign prostatic hyperplasia (BPH).

According to the researches, age and inflammation are playing the vital role as the main factors that cause the increasing cases of benign prostatic hyperplasia in the kingdom of Saudi Arabia. Data and results shown in these studies demonstrate that ageing is the most significant risk factor for the development of BPH as 13% of men 40-49 of age versus 28% in subjects more than 70 year. It was also noticed that In ageing males, a significant tissue-remodeling process takes place within the prostate, especially in the transition zone. Another factors such as hormonal alternations and metabolic syndrome stated to be among the main factors of increasing the disease in the kingdom of Saudi Arabia.

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## 1. INTRODUCTION

Many studies that discussed this issue stated that over the two past decades, the benign prostatic hyperplasia has become one of the most danger factors that threatens the human beings in many countries especially in the country of Saudi Arabia as one of the regions that faces benign prostatic hyperplasia in a big numbers [1].

This paper aims to focus in benign prostatic hyperplasia that is one of the diseases not diagnosed until this time and this gives us a great opportunity to discuss the main causes of benign prostatic hyperplasia besides its natural and history. According to the previous studies, benign prostatic hyperplasia is one of the second causes of male cancer death and this is because the diagnosis of the disease is not found until this time. However, frequent studies have shown that the long supposed term of survival at 10 and 15 years is exactly the same no matter what type of treatment was used.

## 2. METHODS

In this research, I am going to use the method of analyzing data which I collected from a number of a previous studies in order to explore the relationship of CAP to the nutritional status of Saudis, the incidence rate of CAP was 3.1 per 100,000 person per year. Although this was a single hospital study that neglected to measure the patients serum androgens [2] and other sex hormones incriminated in cancer predisposition, yet the low incidence of this cancer was reconfirmed despite a high fat diet with 50% saturated fat content." Unfortunately, this study failed to document important data such as the ethnic origin of the patients and their detailed dietary habits other than fat intake since there is the possibility of protective diet intake including flavonoids and is flavonoids present in tomatoes and tea, both are favored by Saudis."

Records indicated that death rate from benign prostatic cancer during the period of 1991-1995 at one of the main hospitals in Saudi Arabia was 1.5 % among cancer death [3]. Saudi Arabian government started to establish a screening program for employees working at Saudi ARAMCO employees in order to identify the causes and factor of increasing the benign

prostatic among its employee in 1995. The results that came from this screening program was 53-60 % of the cases.

Moreover, in the next study that was conducted in the same program indicated that there were about 20 patients who were suffering from benign prostatic cancer. There are no specific symptoms of the early CAP.4-S It is either discovered incidentally or searched for by PSA screening and digital rectal examination (DRE). 4-S Transrectal ultrasonography (TRUS) and transrectal ultrasound guided needle biopsy follows if one or both tests were abnormal." Late stages of CaP may present by lower urinary tract obstructive symptoms similar to those of BPH.

This study focuses on indicating the various risk factors that are involved in increasing the benign prostatic cancer in Saudi Arabia according to the environment of Saudi Arabia and many other risk factors that play a vital role in increasing benign prostatic cancer in Saudi Arabia. According to the results and the analyzing of data collected from a big number of patients, we can state that 2 well known risk factor for developing and increasing benign prostatic cancer that are increased aging and the presence of gonad and organic hormones.

In Saudi Arabia, many people have trouble talking about the prostate, because of this gland function in sexual life and urination, alike. But enlarged prostate is a normal part of the aging process, such as graying.

Studies said that among the causes of benign prostate cancer in Saudi Arabia , age is the most important cause of benign prostatic hyperplasia and prostate growth is at its peak between the ages of 31 50 years, where twice the growth between the ages of 51 to 70 years [4].

As the rest of the factors are still hypothetical They include chronic prostate congestion. Acute prostatites and chronic including subsequent reasons. Science did not discover until now the direct reasons for prostate cancer; but scientific research focused on two axes: the first study factors for the emergence of prostate cancer, and the second axis methods and techniques that help in the

early detection of the disease or reduce the rate of appearance.

The prostate cancer and benign prostate hyperplasia have symptoms similar despite that most men who have prostate cancer is possible they did not know that they have this situation never only when prostate examinations [5]. This type of slow-growing cancer, and several Saudi men may die of other causes before making prostate cancer to the point of causing symptoms. As in benign prostate hyperplasia, symptoms here as possible to include the lack of power of the urethra and rushes, with problems start and stop urinating. Addition to frequent urination, pain in the pelvic or lower back. Blood or pus in the urine with the possibility to note the emergence pain when urinating not show symptoms Urinary prostate cancer except in cases of late because prostate cancer usually does not cause blockage of the urethra only rarely when the disease has reached an advanced stage and spread.

Other studies that were conducted in the Saudi society confirmed that it is preferable to see a doctor in cases of persistent appearance of any of the above symptoms for two weeks or even less than this period if there is blood in the urine or fever or abdominal pain and this is one of the most important factor of increasing benign prostate cancer in Saudi Arabia that people ignore the pain and refused to see a doctor at the beginning of the disease calming that it may be an ordinary thing [6].

Saudi patents who were seen by doctors suffers from the large proportion of prostate tumors that are benign, which is known as "benign prostatic hyperplasia", and affects many of the elderly after sixty, and swells the prostate gland updated symptoms like weakness validity of urine, and rushes and frequency, especially at night, which is a benign condition is not known science reason have so far, and almost from the syndromes of aging that are inevitable to man them, and different condition benign prostatic hyperplasia is completely different for prostate cancer, as the cells in benign prostatic hyperplasia is not divided, but grow in size only, and does not spread to other organs as the case in prostate cancer, and can be removed by surgery and medicine.

The older men at high risk of prostate cancer, especially those who have a history of

hereditary in the family, it is well known that prostate cancer is valid between families, confirms the presence of genetic link appearing.

When a man with prostate cancer begins to feel symptoms begin with a sense of difficulty in urination, and twice the speed of the flow of urine, and the descent drops of urine after the completion of urination, and repeat times urinating more than usual, and significantly, and the appearance of pus, or blood, the urine, and pain and feeling burning with urination, and pain during ejaculation, with pain in the lower back, hip, do not go away by the day.

Researches confirm that 500 people develop prostate cancer in Saudi Arabia annually. The rate of prostate cancer in Saudi Arabia is the fifth rate cancer rate hit 500 people per year according to the latest statistics conducted in 2003, while considered incidence in the West Top Among other types of cancers [6].

Dr. Rabah to ease the early detection of prostate cancer, explaining that it is inexpensive compared to other types of cancer which prevents the spread of cancer, indicating there is no way the President to prevent it, calling men over the age of fifty for disclosure on an annual basis.

He pointed out that the risk increases in people who have relatives in the family living with prostate cancer and the owners skin dark and people of African descent are more likely to injury, and in America have the risk of every 8 people over the age of fifty, while turning ratio to 1 out of every 4 people when there is an infected person from the family saying the data collection system to measure incomplete accuracy, in addition to the lack of awareness among physicians with the disease, where there must be coordination with the medical centers that receive these cases to study and give accurate figures.

On detection method for prostate cancer , he explained it is during a period not exceeding ten minutes during which a detection clinical finger through the anus as well as a blood test (PSA) which is an acronym for the word (Prostate Specific Antigene), a protein secreted by cells and prostate shows in the blood and the quantity will be recorded in a special blood test device may increase the amount of PSA in some prostate diseases such as prostate cancer and inflammation.

Rabah explained that with age in men there is the possibility of the emergence of some trouble caused by the prostate gland and most important benign prostate hyperplasia (BPH) and prostate cancer [7]. Pointing out that the prostate begin to inflation when all men if they reach the age of forty does not stop with the passage of time ranging effects of this inflation between intense weakness, discomfort simple does not mention does not mean the change in the urethra necessarily the presence of prostate cancer but may be inflation benign or inflammation or any another disease infected urinary tract but it is important to emphasize that the benign prostate hyperplasia is not a cancerous tumor and that it does not lead to increased likelihood of cancer.

### 3. RESULTS

Studies have found the following factors for prostate cancer in Saudi Arabia:

**Age:** Is the main risk factor for prostate cancer, this disease is rare in men younger than 45 years old, and most men with prostate cancer aged more than 60 years. With the improvement in the general living conditions and medical care it is expected that the age distribution will change globally towards an increase in the life expectancy." The current population in KSA is mainly formed of younger age groups," Therefore, the low current prostate cancer detection rate is consistent with the fewer number of aged males in this country.

**Family history:** The risk of infection is higher if the father or brother had prostate cancer. With regard to family history, prostate cancer is believed to occur in 3 forms: (1) sporadic occurring randomly in the population, (2) familial the unpredictable clustering of the disease in families and (3) hereditary early onset of disease and clustering in individual families.

**Ethnicity:** Prostate cancer is more common in men with brown skin. In this group of men and in those with positive family history, the general recommendation to undergo annual screening for prostate cancer with DRE and PSA for men.

**Diet:** Studies show that men who eat diets high in animal fat or meat may be at increased risk for prostate cancer. Those who eat a diet rich in fruits and vegetables will be less with these risks. It has been postulated that low fat

diet consumption may lead to lower serum testosterone levels.' To establish any relationship between hormonal levels in the different age groups and the risk of development of prostate cancer an extensive research work is required.

**Smoking and alcohol intake:** According to the Islamic laws in Saudi Arabia, Alcohol consumption is prohibited so it was presumed that the Saudi population is lowest in alcohol consumption in the world. On the contrary smoking seems a prevalent habit. However, data has been presented to show that neither smoking nor alcohol consumption seriously increases the risk of prostate cancer."

**Diabetes:** The prevalence of diabetes and BPH increases with age. In the Saudi society, we can find that there is a big number of people who suffers from diabetes. The dangerous here is that Several studies have suggested a specific association between BPH and diabetes. Diabetes is reported to be associated with greater BPH symptom severity. In a large-scale observational study in which 9,856 patients with clinically diagnosed BPH participated, 1,290 (13.1%) were found to be diabetic indicating a path physiological link between these two conditions. Previous studies have shown that men with noninsulin dependent diabetes had the highest median annual prostate growth rate compared to those without diabetes.

**Obesity:** One of the most dangerous that threatens the Saudi society is obesity. Many researchers has been implicated in the etiology of benign and malignant prostatic growth due to its influence on metabolic and endocrine changes. Both body mass index (BMI), a measure of overall obesity, and waistto-hip ratio (WHR), an indicator of abdominal obesity, were found to be significantly associated with an increased risk of BPH.

The incidence of prostate cancer is similar to lung cancer in men. As statistics indicate that the disease spend on (42000) forty-two thousand people a year. And less than (1%) of men in the age of less than fifty years have undiagnosed form of prostate cancer, but after the age of eighty This proportion rises to more than (50%) appear to have stage of prostate cancer.

Results indicated that when man advanced in age, prostate pass in the two phases of growth. The first stage get at the beginning of

adolescence, when doubled prostate size. At the age of 25 years old prostate begin to grow again. This growth leads sometimes, after several years, to benign prostatic hyperplasia.

Although the prostate continues to grow during the years of a man's life, but this growth does not lead to problems, but at an older age. Rarely leads enlarged prostate symptoms before the age of forty years. But more than half the men in sixty years of age and nearly ninety percent of men at the age of seventy and eighty years suffering from the symptoms of benign prostate hyperplasia, to varying degrees.

When the prostate enlarges, turning layer fabric that clothe self without expansion, leading to compression of the prostate on the urethra (urethra), which leads to intensify the urinary bladder wall.

Urinary bladder causes pressure, even when they contain a small amount of urine, a phenomenon caused peeing in frequent intervals. With the passage of time, weaken the urinary bladder and lose the ability to fully emptying the urine. Narrowing of the urethra and partial unloading of the bladder for a large part of the problems related to benign enlargement of the prostate.

The rate of prostate cancer in the National Center for tumors are four injuries per hundred thousand of the Saudi population while in it is (200) in America injuries per hundred thousand inhabitants of the population, or fifty times.

In the case of benign prostate hyperplasia, prostate expand and put pressure on the urethra, leading to the emergence of symptoms case of twice the power of the urethra, with difficulty starting or stopping urination in addition to increasing the frequency of urination and particularly during the night with a sense of completeness emptying of the bladder.

The larger the size of the prostate, the layer of tissue that surround it from the outside to prevent it from causing expansion prostate gland pressure on the urethra and narrow waterway. As a result, bladder wall becomes thicker and irritation leading to frequent bladder contraction, even if a small amount of urine, causing an increase or repeated urination, bladder and eventually become weaker and lose their ability to empty itself. The narrowing in the urethra and incomplete emptying of

the bladder cause most of the problems associated with benign prostatic hyperplasia. The urination become hesitant weak, and intermittently, accompanied by leakage of urine with increased urination, especially at night.

Studies in Saudi Arabia also stated that the symptoms of benign prostate hyperplasia is the weakness of the urethra and the difficulty in starting to urinate, frequent urination and getting up from sleep to urinate. The cause repeated urinary infections or severe entrapment in the urine or a slow decline in the kidney or bladder functions, adding that many of the people living in this state without complaint, but others may complain of them.

Noteworthy that Abdul Latif center for early detection of the recently inaugurated President Emeritus of the Saudi Charity Association for Cancer Prince Faisal bin Abdullah bin Abdul Aziz performs early detection of cancers for free, including prostate cancer.

#### **4. CONCLUSION**

In conclusion, we can state that benign prostate occurs at high frequency rates in KSA. There are many risk factors that cause benign prostate occurs in the Kingdom of Saudi Arabia such as age, diet, diabetes, family history. This should encourage us to keep the medical care given to the small number of patients encountered at the highest possible standards. We should recognize patients at risk, mainly aged male relatives of CaP patients and offer them screening. Screening of individuals descending from black African race could also be justified. However, it appears from the data presented in this review article that screening of the general aged male population in KSA does not seem to be justified at the present time.

#### **CONSENT**

It is not applicable.

#### **ETHICAL APPROVAL**

It is not applicable.

#### **COMPETING INTERESTS**

Author has declared that no competing interests exist.

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