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PREVALENCE OF SOME IDENTIFIED PROSTATE PROBLEMS AMONG PEOPLE RESIDENT IN IMO STATE, NIGERIA.

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ABSTRACT

Adult males aged forty years and above resident in Imo State (both indigenes and non indigenes) who visited the state owned health institutions in the state and also the Federal Medical Centre Owerri constituted the population of the study. A sample size of one thousand and ten (1010) patients' case records/reports were on request, made available, randomly from the institutions' records departments for a survey. A careful investigation of the case records showed that as many as three hundred and twenty six (326) of the patients (representing 32.3%) were diagnosed, managed or treated of prostate related problems, identified as benign prostatic hyperplasia (BPH), prostatitis or cancer of the prostate. The prevalence of these prostate problems was also seen to increase with age, as observed in people above seventy years of age where over 48% of them was diagnosed of one form of prostate problem or the other. Sadly, again, the results of the study showed that the prevalence of prostate problems among adult males resident in Imo State increased as the years passed by.

KEYWORDS: **Prostate, cancer, hyperplasia, prevalence prostatitis, benign**.

INTRODUCTION

The prostat (pros'tāt; one standing before) gland, consisting of both glandular and muscular tissues, resembles a walnut in shape and size (being approximately 4cm long and 2cm wide) and lies dorsal to the symphysis pubis at the base of the urinary bladder where it sorrounds the prostatic urethra and the two ejaculatory ducts(1). If the prostate grows too large, it squeezes the urethra, and this may slow or stop the flow of urine from the bladder to the exterior. Again, the prostate is a gland which makes part of the seminal fluid which during ejaculation, helps carry the spermatozoa out of the man's body as part of semen.

It has been demonstrated that there are three main conditions that can affect the prostate gland, which include prostatic hyperplasia inflammation of the prostate gland (prostatitis), and cancer of the prostate[2].
Prostatitis can occur in males of any age, unlike prostate cancer and benign prostatic hyperplasia (BPH) which are common among males forty years and above. Benign prostatic hyperplasia (BPH) is a benign growth of prostate cells but not cancer[3], and it occurs in older men during which the prostate often enlarges to the point where urination becomes difficult, and the symptoms include needing to urinate often or taking a while to get started. In the prostate grows too large, it may constrict the urethra and impede the flow of urine, making urination difficult and painful and in extreme cases, completely impossible. Generally, BPH is a very common problem and most men over the age of fifty experience the symptoms which may be sever enough to need treatment. Historically, however, the term "prostatism" and symptoms of benign prostatic hyperplasia are used to describe lower urinary trait symptoms (LUTS) in men. It is a urinary tract disorder primarily seen among older men in which the prostate gland enlargement leads to complete or partial obstruction of urination.

Prostate cancer is one of the most common cancers affecting older men in developed countries and a significant cause of death for elderly men[4]. The cells are the building blocks that make up tissues, while tissues make up the organs. Normal cells grow and divided to form new cells as the body needs them. When these normal cells grow old or get damaged, they die, and new cells replace them. Some times, however, this process goes wrong, and new cells form when the body does not need them and old or damaged cells fail to die as they ought to. The build up of these extra cells often forms a mass of tissue called a growth or tumour. As a matter of fact, prostate growths can be benign (not cancerous) or malignant (cancerous). If the prostate growth is malignant, the cancer cells can spread by breaking away from the prostate tumour and enter blood vessels or lymph vessels which branch into other tissues of the body. The cancer cells can attach to other tissues and grow to form new tumours that may damage those tissues. As at the year 2011, prostate cancer was the second most frequently diagnosed cancer and the sixth leading cause of death in males worldwide[5], while an estimated 50% of men in year 2008 had histologic evidence of benign prostatic hyperplasia by age 50 years and 75% by age 80 years; and in 40-50% of these men, benign prostatic hyperplasia was clinically significant[6].
Generally, alterations in the size of the prostate could affect the bladder or constrict the urethra, resulting in lower urinary tract symptoms that characterize the clinical setting of benign prostatic hyperplasia. The lower urinary tract symptoms could be divided into voiding or obstructive symptoms and storage or irritative symptoms[7]. The bladder wall hypertrophy and collagen deposition in the bladder however, appear to be the cause of storage symptoms, just as the voiding/obstructive symptoms are incomplete emptying, intermittency, weak stream and straining / hesitancy[8]. The symptoms affect

the quality of lives of the patients adversely, and the degree of discomfort and the particular symptom regarded as most troublesome differ from patient to patient. It is based on the aforegoing that National Cancer Institute[9] stated that most often, prostate symptoms or lower urinary tract symptoms in males are not due to cancer: benign prostatic hyperplasia (BPH), an infection, or other health problems may cause them. But generally, specific urinary symptoms of nocturia, weak stream, restarting, urgency and sensation of incomplete emptying are all related and may therefore be predictive of a prostatic disease process[10].

Several methods are available for the screening and diagnosis of benign prostate hyperplasia (BPH), although the International Prostate Symptom Score (IPSS) index, a modification of the American Urological Association (AUA) symptom index appears to be the method requiring little skill and no laboratory equipment[11]. On the other hand, the only way to definitively diagnose prostate cancer is by taking some of the prostate tissue and looking at it under the microscope to determine if any cancerous cells are present[12], and this is mostly done with prostate biopsy when there is some reason to be concerned that prostate cancer may be present. Other primary and secondary tests are often carried out, such as Prostate-Specific Antigen (PSA) test, urinalysis, ultrasound, urinary flow studies, imaging, temporary prostatic stent placement, and or cystoscopy[13].

As a matter of fact, prostate problems have physical, social and emotional implications. For example, benign prostate hyperplasia can be a progressive disease especially if left untreated, and incomplete voiding results in stasis of bacteria in the bladder residue and an increased risk of urinary tract infection. Urinary bladder stones can also be formed from the crystallization of salts in the residual urine. Urinary retention which could be acute or chronic is also another form of progression (National Cancer Institute[14].

Evidences provided by several researchers have unveiled that there is rising prevalence of prostate problems globally. For example, the prevalence of benign prostatic hyperplasia is well documented in all parts of the world except in Africa[13] and records show there is continued increase in the prevalence of the condition. However, few reports gotten from the southern part of Nigeria, according to Osegbe[15], also showed a high and rising incidence of the problem. The extent of the awareness of the prevalence of prostate problems in the South-Eastern part of Nigeria, particularly in Imo State appears to be grossly inadequate. This work, being a retrospective study streteched from 2011 to 2014 is therefore fashioned to unveil the prevalence of prostate problems among adult males in Imo State from January 2011 to December, 2014.

MATERIALS & METHODS

The population for this study included all the one thousand and ten (1010) adult males aged forty years and above who visited any of the government owned (General) hospitals in Imo State, and the Federal Medical Centre (FMC), Owerri for medical check-up, or for health related problems from January 2011 to December 2014. Overall Clinical examination of the patients and diverse-tests were conducted on the patients, including specific antigen (PSA) tests, digital rectal examinations (DRS) and prostate biopsies, which constituted largely, the instruments for the generation of data used in this study, as provided by the medical records department of the health institutions. While scrutinizing the records made available in the health institutions visited, emphasis was placed on patient's name, age, type of examination done, laboratory tests conducted, diagnosis made, and results obtained.
The data collected were then analyzed using descriptive statistics of frequency and percentages.

RESULTS

The results (data collected from the hospital records) of the study are presented below in tabular forms.

Table 1:

Yearly (2011-2014) incidence of identified prostate problems among adult males resident in Imo State

	PROSTRATE PROBLEMS			
YEAR	**BPH**	**CANCER OF PROSTATE**	**PROSTATITIS**	**TOTAL**
2011	35	10	14	59
2012	46	12	18	76
2013	50	19	20	89
2014	56	22	25	102
TOTAL	**187**	**63**	**76**	**326**

Table 2:

Frequency distribution showing percentages of the identified prostate problems from January 2011 to December 2014.

PROSTATE PROBLEM	FREQUENCY	PERCENTAGE (%)
Benign prostate hyperplasia	187	57.4

Cancer of prostate	63	19.3
Prostatitis	76	23.3
Total	**326**	**100**

Table 3:

Age-distribution of prostate problems from January 2011 to December 2014.

PROSTRATE PROBLEMS				
AGE (YRS)	**BPH**	**CANCER OF PROSTATE**	**PROSTATITIS**	**TOTAL**
40-49	10	2	6	18
50-59	30	8	10	48
60-69	63	18	20	101
≥ 70	84	35	40	159
TOTAL	**187**	**63**	**76**	**326**

Table 4:

Frequency table showing percentage distribution of the identified prostate problems based on age.

AGE (YRS)	FREQUENCY	PERCENTAGE (%)
40-49	18	5.5
50-59	48	14.7
60-69	101	31.0
≥ 70	159	48.8
Total	**326**	**100**

Table 5:

The yearly prevalence (in percentages) of prostate problems among male adults resident in Imo State.

YEAR	FREQUENCY OF PROSTATE PROBLEM	PERCENTAGE (%)
2011	59	18.1
2012	76	23.3
2013	89	27.3
2014	102	31.3
Total	**326**	**100**

DISCUSSION

Out of the one thousand and ten (1010) patients whose medical record files made available by the different health institutions were surveyed, three hundred and twenty six (326) had one form of prostate problem or the other, representing 32.3% of the total population of the study. It is quite horrifying to state that the results revealed that there was a soar in the prevalence of prostate related health problems as the years passed by. In 2011, only 18.1% of subjects studied had prostate related problems. The situation worsened in 2012 when 23.3% of the subjects were diagnosed of one or more forms of prostate problems. Year 2013 was no exception as many more (27.3% were diagnosed of health problems that bordered on the prostate gland. In alignment with the changes noticed in the preceding three years (2011, 2012, and 2013), year 2014 witnessed the highest prevalence of the conditions, projecting as much as 31.3% of patients suffering from prostate problems. This result therefore shares opinion with Marc and Garnick[16] who stated that about eighty percent (80%) of all men will eventually have prostate problems by age above fifty years.

The results of the study also showed that of all the identified prostate problems in this study, stretching from January 2011 to December 2014, benign prostatic hyperplasia (BPH) was the most commonly suffered, having accounted for 57.4% of the prostate problems diagnosed.

Prostatits came second after benign prostate hyperplasia, being the second main cause of the identified prostate problems. It accounted for 23.3% of all cases seen or managed. Cancer of the prostate, 'luckily", was relatively the least common, as only 19.3% of the subjects presented the condition.

When the age-based prevalence of the identified prostate problems was investigated, it was shown that prostate related health problems appeared to be endemic among men of seventy years and above. This was demonstrated by the alarming percentage of (48.5%) of them that suffered the conditions. While only 5.5% of the adult men in the age bracket of 40 to 49 years were diagnosed of one or more of the conditions, 14.7% of subjects aged 50 to 59 years, and 31.0% of 60 to 69 year old subjects were victims of the identified prostate problems. It could therefore be ascerted that the prevalence of prostate problems is age related, with the conditions being generally most common among the relatively more elderly people.

The reports of Rubenstein and McVary[6] lend support to this ascertion, as they stated that adenomatous prostatic growth began at approximately 30 years of age, and that an estimated 50% of men had histologic evidence of benign prostatic hyperplasia at 50 years of age, and 75% by age, 80 years.

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