

Evaluation of Knowledge Attitude and Perception to Benign Prostatic Hyperplasia (BPH) Amongst Public Servants in Federal Capital Territory, Abuja, Nigeria

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ABSTRACT

Background: Benign prostatic hyperplasia (BPH) is a disease condition in men which affects the prostate gland. There is no consensus about a case definition of benign prostatic hyperplasia (BPH). The incidence of BPH and Prostate cancer has risen in recent decades, with very minimal preventive screening through prostate-specific antigen (PSA) testing. However, prostate cancer mortality rates have remained relatively static over decade. The aim of this study was to determine the knowledge, attitude and perception to BPH and other forms of Prostatic diseases amongst random community-based population of 307 men (age 40 and above). **Method:** A questionnaire-based descriptive cross-sectional study was carried out amongst male adults above 40 years of age in the Federal Capital Territory (FCT), Abuja, Nigeria. A semi-structured and pre-tested knowledge, attitudes and practices (KAP) questionnaire was administered to the study respondents. Statistical analysis was carried out for frequency, percentages and chi-square measures to test for levels of significance using SPSS. **Result:** The dominant age group of the respondents was 47 to 49 and majority (38.3 %) had tertiary level of education. Majority of the participants had no knowledge about BPH (67.1 %), Prostate cancer (51.1 %) and PSA screening. Knowledge of its NHIS coverage is at 22.9%. Of the 22.9% that are aware of BPH only an average of 20% are aware of the causes. Cross tabulation of knowledge and attitude of civil servants to BPH, Prostate cancer and PSA test with variables of the demographic data shown significant ($p < 0.05$) correlation. **Conclusion:** Most of the participants had no knowledge about BPH, Prostate cancer and PSA test. Although some of these associations were statistically significant whilst majority were insignificant, more in-depth studies are required to further prove this finding.

Keywords: BPH, PSA, Prostate cancer, knowledge, Attitude, Perception.

INTRODUCTION

Benign prostatic hyperplasia (BPH) is a disease condition in men which affects the prostate gland as a result the proliferation of both stromal and epithelial cells of the prostate in the transitional zone surrounding the urethra and is a frequent cause of lower urinary tract symptoms (LUTS) [1]. In BPH, the prostate gland is enlarged and not cancerous. Benign prostatic hyperplasia is also known as benign prostatic hypertrophy or benign prostatic obstruction [1]. It is the most common neoplasm in adult males and also a significant cause of urinary symptoms in adult males [2].

The pathophysiology cause of BPH is unknown or sometimes complicated and poorly understood, but it is considered a normal condition of male aging. The risk factors for BPH include Age, metabolic syndrome, diabetes, obesity, hypertension, diet and sex hormone levels and a few others, aging is the major causative factor of BPH [3]. Typically, these factors do not occur in combination, but in certain men they can overlap. Experts in this field have considered androgens or endogenous sex hormones (namely testosterone, Dihydrotestosterone (DHT), and estrogen) to play a permissive role in the development of BPH. This means that for BPH to occur, androgens must be present, but do not necessarily directly cause the condition. This is supported by evidence from a study on castrated males. [3] The symptoms of BPH are often very mild initially, but they become more serious if they are not treated. Common symptoms associated with BPH include incomplete bladder emptying, nocturia (this is the urge to urinate two or more times per night), dribbling at the end of the urinary stream, urinary incontinence, pain in urination and others [4]. Also, symptoms of BPH can be obstructive (straining or prolonged voiding) or irritative (reduced voiding volume) or after micturition (incomplete emptying) [5]. There are different risk factors associated with BPH which on a population level can be divided into two (2) broad categories. These are the non-modifiable (age, geography and genetics) and modifiable (sex steroid hormones, the metabolic syndrome, obesity, diabetes, physical activity, diet, and inflammation) [6]. Age is a major risk factor in the development of BPH. The prevalence of BPH rises markedly with age. It is the most prevalent disease among men beyond middle age. Autopsy studies show that histological BPH is present in 50% of men in their 60s, rising to 90% in men >85years of age [7]. Also, symptoms have been seen to increase with increasing age. Another risk factor for developing BPH is genetics. Evidence from studies have suggested that there are genetic components to BPH. Therefore, those with a family history of the disease are more likely to develop it. [6]. Obesity can also contribute to the development of BPH. In one study, obese (BMI ≥ 35 kg/m²) participants had a 3.5-fold increased risk of prostate enlargement compared with non-obese (BMI <25 kg/m²) participants. [8]. Those with cardiovascular and metabolic diseases are also at risk of developing the condition. [6]

BPH, if left untreated is associated with several complications of which the most common presenting complication that requires hospitalization is acute urinary retention. This greatly affects patients' quality of life and is an important health issue. Urinary retention is the inability to completely empty the bladder of urine. Many of the other complications of BPH are in part due to complications of chronic urinary retention; these include recurrent urinary tract infections (UTIs), formation of bladder calculi, hematuria, and damage to bladder wall and kidneys. Finally, there is an important association between BPH and male Erectile Dysfunction (ED). This has been supported by medical experts and articles [9].

Worldwide, the prevalence of BPH is very high. Data suggests the prevalence varies from 20 - 62% in men over 50 years and this includes USA, UK, Japan and Ghana [10]. In Nigeria, a study conducted in the south-west region gave an overall prevalence of 237 per 1000 men (23.7%). The age-specific prevalence rates increased from 104 per 1000 men in the fifth decade to 429 per 1000 in men >90 years [11]. Efforts at improving awareness about prostatic diseases should not be directed at malignant diseases but also towards benign conditions which are by far more common than malignant ones. This will also reduce morbidity and mortality significantly. Due to the prevalence of BPH in Nigerian men, the exposure of civil servants to some important risk factors associated with the development of BPH such as Type 2 Diabetes Mellitus and Hypertension, and the complications of untreated BPH necessitates carrying out a survey on the awareness of civil servants to BPH. This study therefore aims to evaluate the attitude, knowledge, and perception of civil servants in the Federal Capital Territory (FCT), Nigeria to Benign Prostatic Hyperplasia.

METHOD

Study Design, Setting and Population

The method used was a questionnaire-based descriptive cross-sectional study carried out amongst male adults in the Federal Capital Territory (FCT), Abuja, Nigeria. The target population was male adult civil servants above 40 years of age.

Inclusion Criteria

Adult male civil servants above 40 years living in the Federal Capital Territory (FCT), Nigeria

Exclusion Criteria

Men under 40 years of age, men who are not civil servants, women and children, adult male civil servants who are not residing in the FCT.

Ethical Issues

Consent was also sought and obtained from each participant before issuing out the questionnaire to them.

Sampling Techniques

A multi-sampling technique was used in the study. Participants were stratified and selected based on convenience sampling.

Data Collection

A semi-structured and pre-tested knowledge, attitudes and practices (KAP) questionnaire containing sections on demography, knowledge, attitudes and awareness regarding BPH screening was used as the instrument for data collection.

Data Analysis

Data from the participants will be analyzed with SPSS and the results will be displayed in tables and chart. Knowledge about prostatic diseases will be determined based on responses to 20 knowledge-based questions. Respondents with 0-10 correct responses will be concluded to have poor knowledge while those with 11-20 will be concluded to have good knowledge. Attitude of participants to BPH will be judged based on the appropriateness of their responses to the six questions on attitude of civil servants to Prostate Specific Antigen (PSA) Test.

RESULTS

Demography

A total of 307 respondents were recruited for this study, consisting of 100% males aged 40 years and above, and the dominant age group was 47 to 49 (24.4%), whilst a total of (38.8%) of the respondents had tertiary level of education. Also, majority (72.6%) of the participants were married whilst (88.9%) of the respondents were non-health personnel. Further details on the socio-demographic characteristics are shown in table 1 below.

Table 1: Socio-Demographic Data

Variables	Frequency (%)
Age	
40 to 43	65 (21.2)
44 to 46	37 (12.1)
47 to 49	75 (24.4)
50 to 52	50 (16.3)
53 to 55	41 (13.4)
56 to 58	31 (10.1)
59 and above	8 (2.6)
Highest level of education	
Primary	27.4%
Secondary	33.9%
Tertiary	38.8%
Marital status	
Married	72.6%
Divorced	15.6%
Widowed	11.7%
Work sector	
Health personnel	11.1%
Non-health personnel	88.9%
Work place	
Parastatal	20.2%
Paramilitary	18.9%
Legislative Agency	16.3%
Judiciary	14.0%
Core Ministry	16.6%
Armed Forces	14.0%
Religion	
Christian	36.5%
Islam	33.9%
Others	29.6%
Geopolitical Zones	
North Central	12.7%
North East	15.3%
North West	17.3%
South East	16.6%
South South	22.5%
South West	15.6%

Awareness About Prostatic Diseases

More than half (67.1) of the respondents in this study don't have knowledge of BPH, whilst (51.1%) of the respondents have no knowledge about prostate cancer. Also, more than three quarter (77.5%, 84.0% & 87.0%) of the participants have no knowledge that PSA screening, prostatitis and PSA test is covered by NHIS, whilst (22.5% & 31.30% respectively) of the respondents feels like urinating again after urinating and finds it difficult to retain urine. Further details are presented in the figure below.

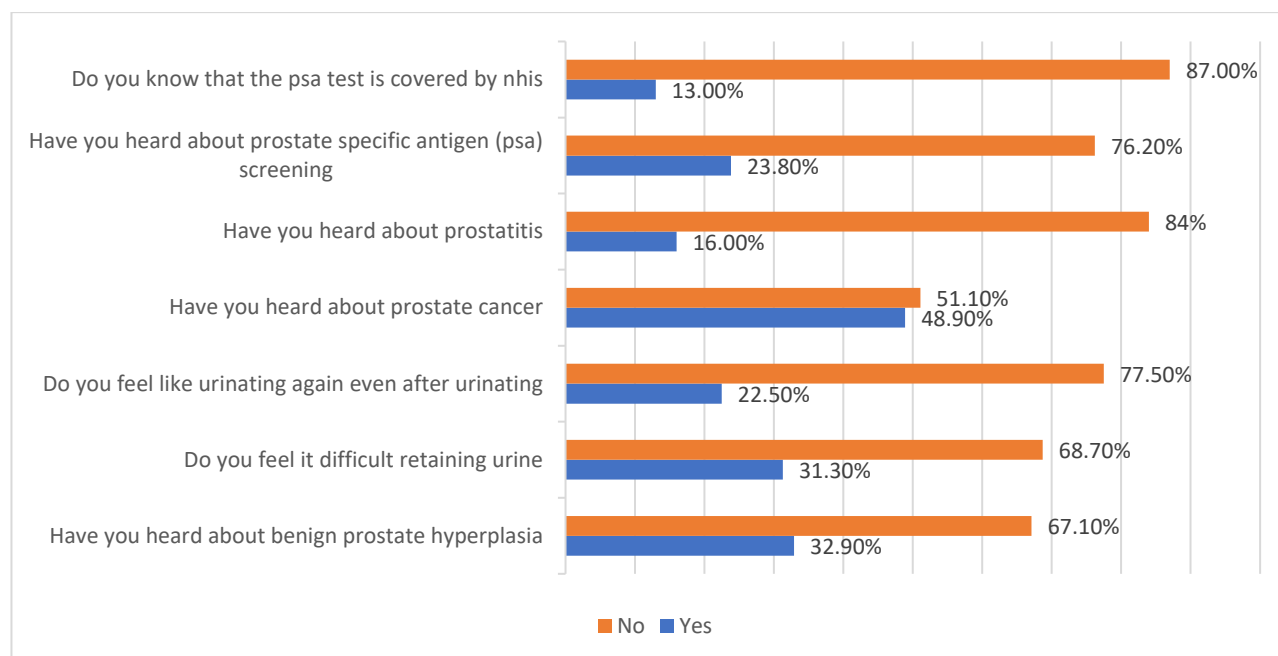


Fig 1: Awareness About Prostatic Diseases

Sources of Information About Prostatic Diseases

Above half (67.1%) of the respondents in this study have not heard about BPH from any information source, whilst only 15.3% of the respondent's reported hospital/clinic as their source of information about BPH. Radio, magazine, newspaper, health outreach and place of worship were the least reported sources of information about BPH. Further details are presented in the figure below.

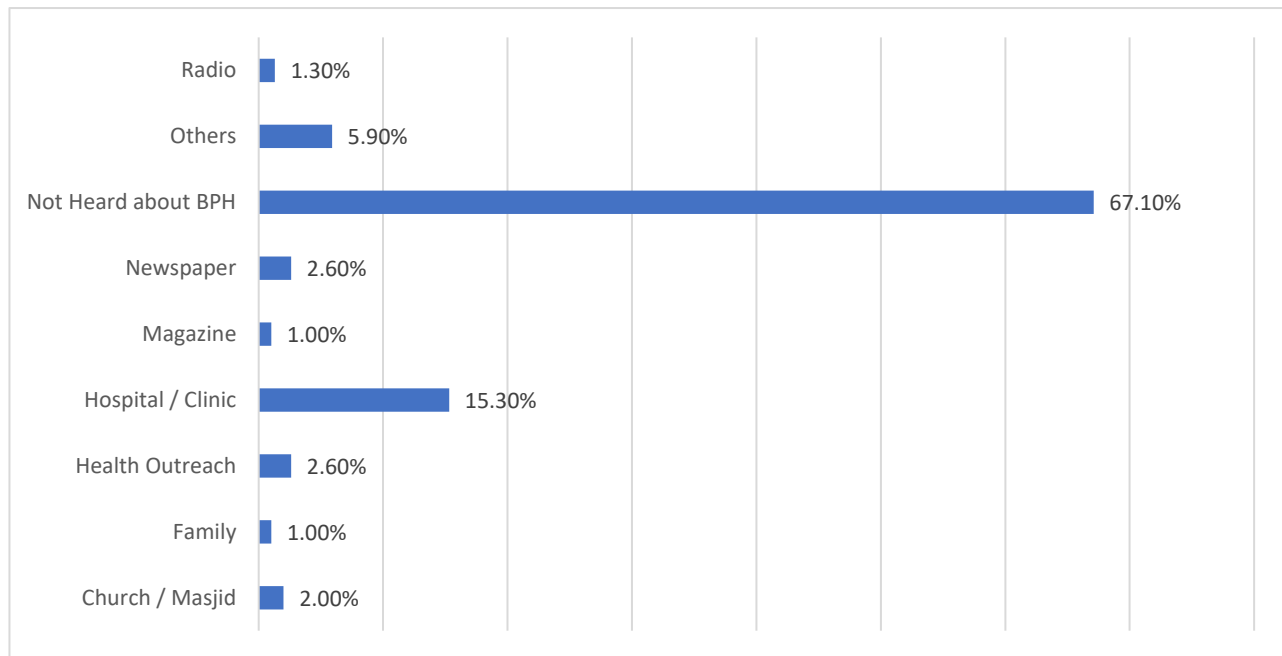


Fig 2: Sources of Information About Prostatic Diseases

Knowledge About the Causes of BPH

Majority of the respondents do not think that both early and late childbearing can cause BPH, whilst more of the participants think that polygamous men, poverty or being married can cause BPH. Also, more than two third (71.3%) of the respondents don't have history of sexually Transmitted Diseases (STD), and were indifference to their response if BPH is a spiritual attack. Further details are presented in the figure below.

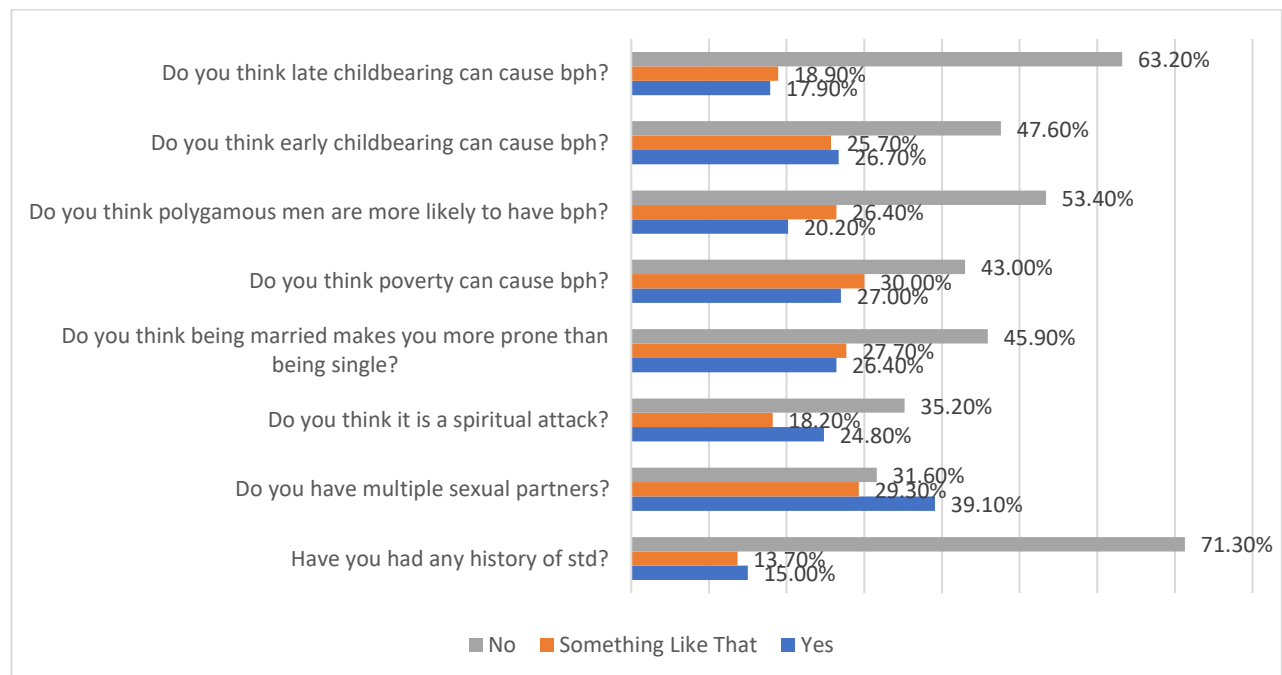


Fig 3: Knowledge about the causes of BPH

Attitude of Civil Servants to BPH Screening

Majority of the participants agreed that all adult men should undergo BPH screening, whilst almost half (46% & 48.6%) of the respondents agreed that medical, surgical drug treatment of BPH is effective. Also, 45% Of the participants disagreed with consultation with doctor when home remedy fails, whilst half of the respondent (50.8%) agreed early consultation of doctors for urinary symptoms is helpful. However, participants were indifferent in their response for early diagnosis of BPH improves clinical outcome. Further details are presented in the figure below.

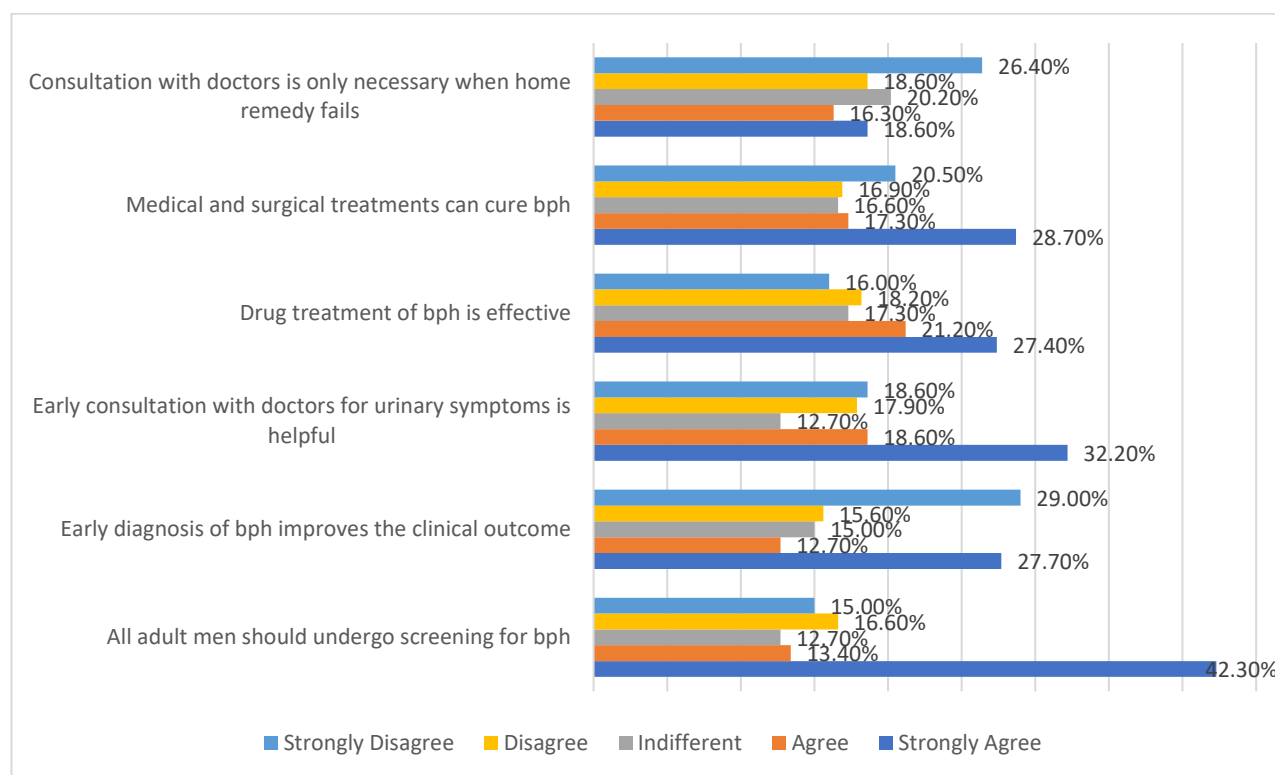


Fig 4: Attitude of Civil Servants to PSA Test

Attitude of Civil Servants to PSA/BPH Screening Practices

More than half (67.3%) of the respondents are willing to undergo BPH screening, whilst about two third (61.7%) of the participants have not done digital rectal examination before. Also, two third (61.9% & 6.9%) of the respondents have not done PSA test before nor take the test regularly, whilst 52.6% of the participants have not been advised to take PSA test before. Further details are presented in the figure below.

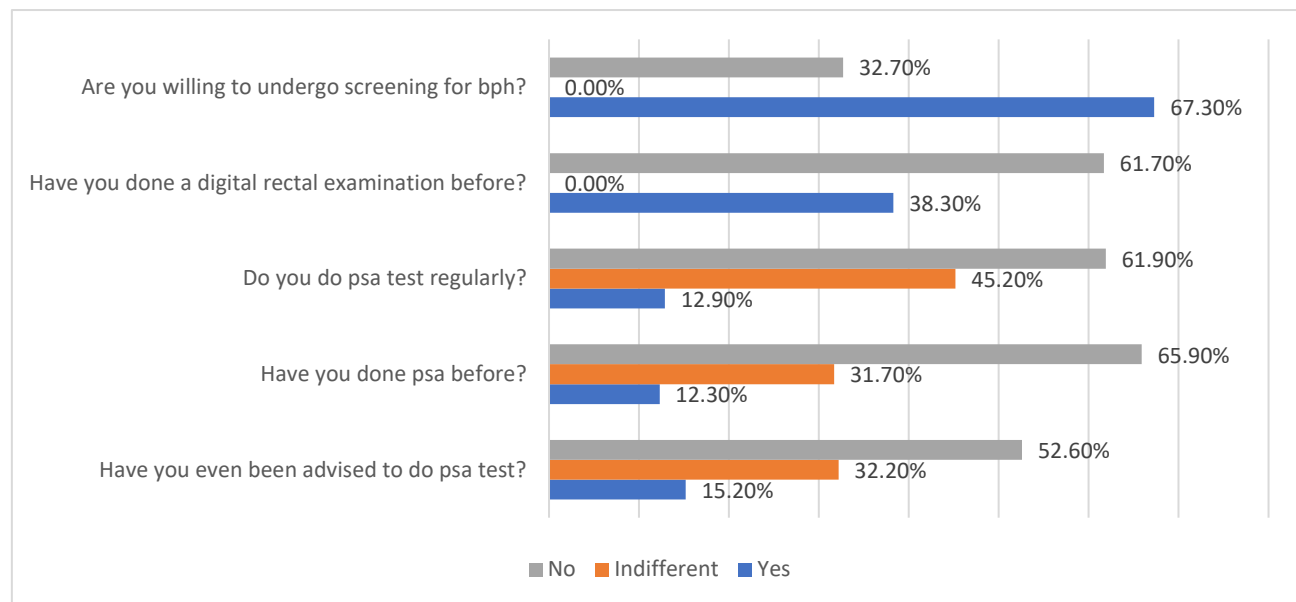


Fig 5: Attitude of Civil Servants to Screening Practices

Reason for not Undergoing PSA Screening

Financial constraint was the major (41.7%) reason why most of the respondent did not undergo Prostate Specific Antigen screening. Further details are presented in the figure below.

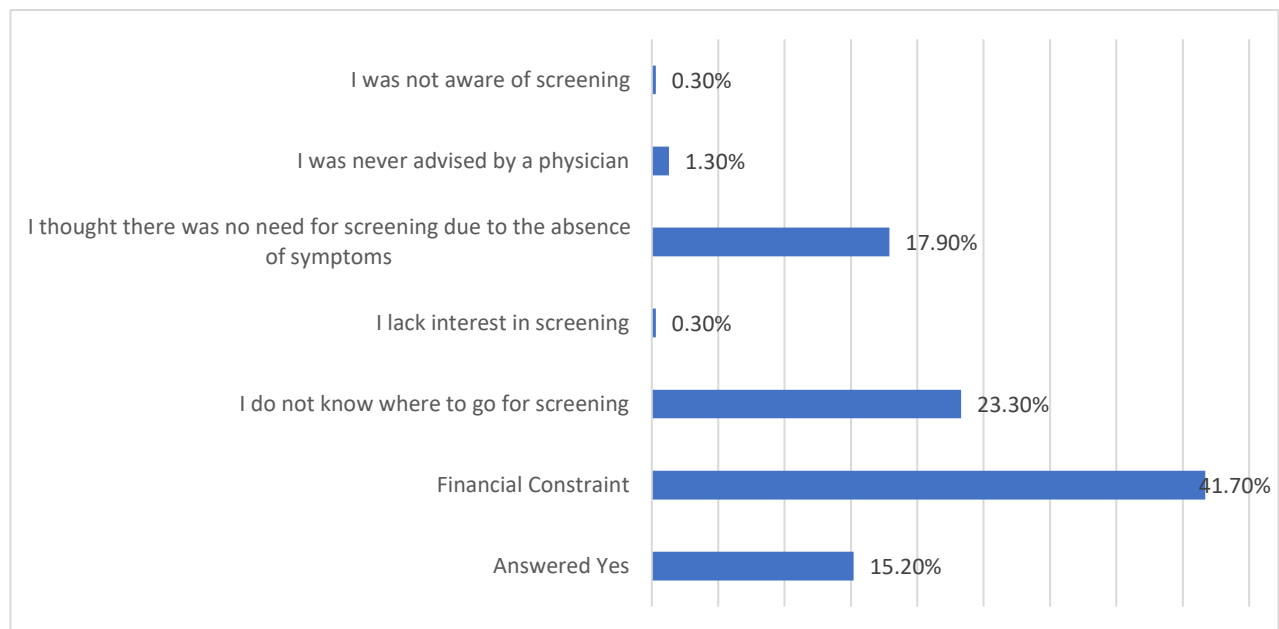


Fig 6: Reason for not Undergoing PSA Screening

Adding to the descriptive statistical analysis attempted, crosstab statistical analysis was carried out using chin square test to determine association between variables and demographic data. The result showed that above half of the respondents in age group 40 to 43, 53 to 55, 56 to 58 and 59 above have heard about Benign Prostate Hyperplasia (BPH), whilst participants in age group 44 to 46, 47 to 49 and 50 to 52 were indifferent in their response. These results were statistically insignificant ($p=0.727$). Also, above half of the participants in age group 40 to 43,

47 to 49 and 53 to 55 have not heard about prostate cancer, whilst respondents in age group 44 to 46, 56 to 58, 50 to 52 and 59 above were indifferent in their response. These results were statistically insignificant ($p=0.317$). More than 50% of the respondents in age group 40 to 43, 44 to 46, 47 to 49 and 56 to 58 have heard about prostatitis, whilst participants in age group 50 to 52 and 53 to 55 and 59 above were indifferent in their response. These results were statistically insignificant ($p=0.881$). All the participants in age group 40 to 43 and 44 to 46 have heard about prostate specific antigen (PSA) screening whilst more than half of the respondent in age group 47 to 49, 50 to 52 and 59 above have heard about Prostate Specific Antigen screening. However, participants in age group 53 to 55 and 56 to 58 were indifferent in their response. These results were statistically significant ($p<0.001$). Similarly, above half of the respondents in age group 44 to 46, 47 to 49, 50 to 52, 53 to 55 and 56 to 58 have done Prostate Specific Antigen screening before whilst participants in age group 40 to 43 and 59 above were indifferent in their response. These results were statistically insignificant ($p=0.664$). However, most participants in all age group were indifferent in their response to doing Prostate Specific Antigen test regularly. These result were statistically insignificant ($p=0.683$). Similarly, majority of the respondents under all age group are willing to undergo screening for BPH. These results were statistically insignificant ($p=0.909$). Further details are presented in table 2 below.

Table 2: Cross Tabulation of Age with Knowledge, Awareness and Attitude of Civil Servants to BPH & PSA Screening

Statement	Age	Yes n (%)	Indifferent (%)	No n (%)	χ^2	P-value
Have You Heard About Benign Prostate Hyperplasia	40 to 43	36 (55.4)	0 (0.0)	29 (44.6)	3.617	0.727
	44 to 46	17 (45.9)	0 (0.0)	20 (54.1)		
	47 to 49	32 (42.7)	0 (0.0)	43 (57.3)		
	50 to 52	25 (50.0)	0 (0.0)	25 (50.0)		
	53 to 55	22 (53.7)	0 (0.0)	19 (46.3)		
	56 to 58	17 (54.8)	0 (0.0)	14 (45.2)		
	59 and Above	5 (62.5)	0 (0.0)	3 (37.5)		
Have you heard about prostate cancer?	40 to 43	31 (47.7)	0 (0.0)	34 (52.3)	6.946	0.317
	44 to 46	23 (62.2)	0 (0.0)	14 (37.8)		
	47 to 49	36 (48.0)	0 (0.0)	39 (52.0)		
	50 to 52	25 (50.0)	0 (0.0)	25 (50.0)		
	53 to 55	14 (34.1)	0 (0.0)	27 (65.9)		
	56 to 58	16 (51.6)	0 (0.0)	15 (48.4)		
	59 and Above	5 (62.5)	0 (0.0)	3 (37.5)		
Have you heard about prostatitis?	40 to 43	36 (55.4)	0 (0.0)	29 (44.6)	2.380	0.881
	44 to 46	19 (51.4)	0 (0.0)	18 (48.6)		
	47 to 49	41 (54.7)	0 (0.0)	34 (45.3)		
	50 to 52	24 (48.0)	0 (0.0)	26 (52.0)		
	53 to 55	19 (46.3)	0 (0.0)	22 (53.7)		
	56 to 58	19 (61.3)	0 (0.0)	12 (38.7)		
	59 and Above	4 (50.0)	0 (0.0)	4 (50.0)		
Have you heard about prostate specific antigen (psa) screening?	40 to 43	0 (0.0)	0 (0.0)	65 (100.0)	75.521	<0.001
	44 to 46	0 (0.0)	0 (0.0)	37 (100.0)		
	47 to 49	17 (22.7)	0 (0.0)	58 (77.3)		
	50 to 52	21 (42.0)	0 (0.0)	29 (58.0)		
	53 to 55	23 (56.1)	0 (0.0)	18 (43.9)		
	56 to 58	17 (54.8)	0 (0.0)	14 (45.2)		

	59 and Above	2 (25.0)	0 (0.0)	6 (75.0)		
Have you done psa before?	40 to 43	25 (38.5)	11 (15.9)	29 (44.6)	9.44 6	0.664
	44 to 46	8 (21.6)	5 (13.5)	24 (64.9)		
	47 to 49	28 (37.3)	7 (9.3)	40 (53.3)		
	50 to 52	16 (32.0)	9 (18.0)	25 (50.0)		
	53 to 55	13 (31.7)	4 (9.8)	24 (58.5)		
	56 to 58	9 (29.0)	5 (16.1)	17 (54.8)		
	59 and Above	4 (50.0)	0 (0.0)	4 (50.0)		
Do you do psa test regularly?	40 to 43	26 (40.0)	23 (35.4)	16 (24.6)	9.23 5	0.683
	44 to 46	10 (27.0)	11 (29.7)	16 (43.3)		
	47 to 49	25 (33.3)	26 (34.7)	24 (32.0)		
	50 to 52	13 (26.0)	21 (42.0)	16 (32.0)		
	53 to 55	11 (26.8)	13 (31.7)	17 (41.5)		
	56 to 58	13 (41.9)	11 (35.5)	7 (22.6)		
	59 and Above	3 (37.5)	3 (37.5)	2 (25.0)		
Are you willing to undergo screening for BPH?	40 to 43	28 (43.1)	0 (0.0)	37 (56.9)	2.10 8	0.909
	44 to 46	18 (48.6)	0 (0.0)	19 (51.4)		
	47 to 49	34 (45.3)	0 (0.0)	41 (54.7)		
	50 to 52	23 (46.0)	0 (0.0)	27 (54.0)		
	53 to 55	16 (39.0)	0 (0.0)	25 (61.0)		
	56 to 58	13 (41.)	0 (0.0)	18 (58.1)		
	59 and Above	2 (25.0)	0 (0.0)	6 (75.0)		

The result also showed that above half of the respondents with secondary and tertiary level of education have not heard about BPH, whilst those with primary level of education were indifferent as regarding their knowledge about BPH. These results were statistically insignificant ($p=0.466$). Also, above half of the participants with primary and tertiary level of education no knowledge about prostate cancer, whilst above half of those with secondary level of education have knowledge about prostate cancer.

These results were statistically insignificant ($p=0.130$). Similarly, above 50% of the participant in all level of education have knowledge about prostatitis. However, these results were statistically insignificant ($p=0.916$). Also, above 70% of all the respondent in all education level have not heard about Prostate Specific Antigen screening. These results were statistically insignificant ($p=0.556$). Similarly, above half of the respondents in all education level have not done Prostate Specific Antigen screening before.

These results were statistically insignificant ($p=0.961$). Majority of the participants with primary education level don't do Prostate Specific Antigen test regularly, whilst those with secondary and tertiary level of education were indifferent in their response. These results were statistically insignificant ($p=0.949$). However, above half of the respondents in all education level are willing to undergo screening for BPH. These results were statistically insignificant ($p=0.862$). Further details are presented in table 3 below

Table 3: Cross Tabulation of Level of Education with Knowledge, Awareness and Attitude of Civil Servants to BPH & PSA Screening

Statement	Level of Education	Yes n (%)	Indifferent (%)	No n (%)	χ^2	P-value
Have You Heard About Benign Prostate Hyperplasia	Primary	51 (55.4)	0 (0.0)	41 (44.6)	1.528	0.466
	Secondary	57 (48.7)	0 (0.0)	60 (51.3)		
	Tertiary	46 (46.9)	0 (0.0)	52 (53.1)		
Have you heard about prostate cancer?	Primary	44 (47.8)	0 (0.0)	48 (52.2)	4.073	0.130
	Secondary	65 (55.6)	0 (0.0)	52 (44.4)		
	Tertiary	41 (41.8)	0 (0.0)	57 (58.2)		
Have you heard about prostatitis?	Primary	47 (51.1)	0 (0.0)	45 (48.9)	0.175	0.916
	Secondary	62 (53.0)	0 (0.0)	55 (47.0)		
	Tertiary	53 (54.1)	0 (0.0)	45 (45.9)		
Have you heard about prostate specific antigen (PSA) screening?	Primary	24 (26.1)	0 (0.0)	68 (73.9)	1.175	0.556
	Secondary	27 (23.1)	0 (0.0)	90 (76.9)		
	Tertiary	29 (29.6)	0 (0.0)	69 (70.4)		
Have you done PSA before?	Primary	29 (31.5)	12 (13.0)	51 (55.4)	0.614	0.961
	Secondary	42 (35.9)	16 (13.7)	59 (50.4)		
	Tertiary	32 (32.7)	13 (13.3)	53 (54.1)		
Do you do PSA test regularly?	Primary	29 (31.5)	35 (38.0)	28 (30.4)	0.718	0.949
	Secondary	40 (34.2)	38 (32.5)	39 (33.3)		
	Tertiary	32 (32.7)	35 (35.7)	31 (31.6)		
Are you willing to undergo screening for BPH?	Primary	38 (41.3)	0 (0.0)	54 (58.7)	0.298	0.862
	Secondary	52 (44.4)	0 (0.0)	65 (55.6)		
	Tertiary	44 (44.9)	0 (0.0)	54 (55.1)		

The result also showed that majority of the respondents that are health personnel have heard about BPH, whilst majority of the participant that are non-health personnel have no knowledge about BPH. These results were statistically insignificant ($p=0.204$). Similarly, above half of the respondents that are health personnel have heard about prostate cancer, whilst above half of the participants that are non-health personnel have not heard about prostate cancer. These results were statistically insignificant ($p=0.747$). Also, above half of the respondents that are health personnel have heard about prostatitis, whilst above half of the participants that are non-health personnel have not heard about prostatitis. These results were statistically insignificant ($p=0.879$). 100% of the respondent that are health personnel have no heard about Prostate Specific Antigen screening whilst two third of the participants that re non-health personnel also have not heard about Prostate Specific Antigen screening. These results were statistically significant ($p<0.001$). Above 50% of both health and non-health personnel have not done Prostate Specific Antigen test before. These results were statistically insignificant ($p=0.281$). Also majority of the participants were indifferent in their response to doing Prostate Specific Antigen test regularly. These results were statistically insignificant ($p=0.864$). However, majority of both health and non-health personnel are not willing to undergo BPH screening. Further details are presented in table 4 below

Table 4: Cross Tabulation of Work Sector with Knowledge, Awareness and Attitude of Civil Servants to BPH & PSA Screening

Statement	Work Sector	Yes n (%)	Indifferent (%)	No n (%)	χ^2	<i>P-value</i>
Have You Heard About BPH	Health personnel	20 (60.6)	0 (0.0)	13 (39.4)	1.613	0.204
	Non Health personnel	134 (48.9)	0 (0.0)	140 (51.1)		
Have you heard about prostate cancer?	Health personnel	17 (51.5)	0 (0.0)	16 (48.5)	0.104	0.747
	Non Health personnel	133 (48.5)	0 (0.0)	141 (51.5)		
Have you heard about prostatitis?	Health personnel	17 (51.5)	0 (0.0)	16 (48.5)	0.023	0.879
	Non Health personnel	145 (52.9)	0 (0.0)	129 (47.1)		
Have you heard about prostate specific antigen (PSA) screening?	Health personnel	0 (0.0)	0 (0.0)	33 (100.0)	13.031	<0.001
	Non Health personnel	80 (29.2)	0 (0.0)	194 (70.8)		
Have you done PSA before?	Health personnel	7 (21.2)	5 (15.2)	21 (63.6)	2.541	0.281
	Non Health personnel	96 (35.0)	36 (13.1)	142 (51.8)		
Do you do PSA test regularly?	Health personnel	10 (30.3)	13 (39.4)	10 (30.3)	0.293	0.864
	Non Health personnel	91 (33.2)	95 (34.7)	88 (32.1)		
Are you willing to undergo screening for BPH?	Health personnel	11 (33.3)	0 (0.0)	22 (66.7)	1.599	0.206
	Non Health personnel	123 (44.9)	0 (0.0)	151 (55.1)		

The results also showed that above half of the respondent working under core ministry, judiciary and parastatal have heard about BPH, whilst those under armed forces, legislative agency and paramilitary were indifferent in their response. These results were statistically insignificant ($p=0.787$). Similarly, above 50% of the respondents under armed forces, core ministry and legislative agency have heard about prostate cancer, whilst those under judiciary, paramilitary and parastatal were indifferent in their response. These results were statistically significant ($p=0.004$). Also, majority of those working under core ministry, legislative agency, paramilitary and parastatal have heard about prostatitis, whilst majority of those under armed forces and judiciary were indifferent in their response. These results were statistically insignificant ($p=0.545$). Above two third of all the participants all working categories have not heard about Prostate Specific Antigen screening. These results were statistically insignificant ($p=0.234$). Above half of the respondent under armed forces, core ministry, legislative agency and parastatal have not done Prostate Specific Antigen screening before, whilst those under judiciary and paramilitary were indifferent in their response. These results were statistically insignificant ($p=0.892$). Similarly, majority of the participants under all categories were indifferent in their response to doing Prostate Specific Antigen screening regularly. These results were statistically insignificant ($p=0.668$). Also, above half of the respondents under armed forces are willing to undergo BPH screening, whilst all other categories were indifferent in their response. These results were statistically insignificant ($p=0.587$). Further details are presented in table 5 below

Table 5: Cross Tabulation of Work Place with Knowledge, Awareness and Attitude of Civil Servants to BPH & PSA Screening

Statement	Work Place	Yes n (%)	Indifferent (%)	No n (%)	χ^2	P-value
Have You Heard About Benign Prostate Hyperplasia	Armed Forces	21 (48.8)	0 (0.0)	22 (51.2)	2.433	0.787
	Core Ministry	26 (51.0)	0 (0.0)	25 (49.0)		
	Judiciary	25 (58.1)	0 (0.0)	18 (41.9)		
	Legislative Agency	22 (44.0)	0 (0.0)	28 (56.0)		
	Paramilitary	27 (46.6)	0 (0.0)	31 (53.4)		
	Parastatal	33 (53.2)	0 (0.0)	29 (46.8)		
Have you heard about prostate cancer?	Armed Forces	30 (69.8)	0 (0.0)	13 (30.2)	17.501	0.004
	Core Ministry	28 (54.9)	0 (0.0)	23 (45.1)		
	Judiciary	20 (46.5)	0 (0.0)	23 (53.5)		
	Legislative Agency	27 (54.0)	0 (0.0)	23 (46.0)		
	Paramilitary	26 (44.8)	0 (0.0)	32 (55.2)		
	Parastatal	19 (30.6)	0 (0.0)	43 (69.4)		
Have you heard about prostatitis?	Armed Forces	20 (46.5)	0 (0.0)	23 (53.5)	4.031	0.545
	Core Ministry	30 (58.8)	0 (0.0)	21 (41.2)		
	Judiciary	19 (44.2)	0 (0.0)	24 (55.8)		
	Legislative Agency	30 (60.0)	0 (0.0)	20 (40.0)		
	Paramilitary	29 (50.0)	0 (0.0)	29 (50.0)		
	Parastatal	34 (54.8)	0 (0.0)	28 (45.2)		
Have you heard about prostate specific antigen (PSA) screening?	Armed Forces	9 (20.9)	0 (0.0)	34 (79.1)	6.828	0.234
	Core Ministry	18 (35.3)	0 (0.0)	33 (64.7)		
	Judiciary	6 (14.0)	0 (0.0)	37 (86.0)		
	Legislative Agency	12 (24.0)	0 (0.0)	38 (76.0)		
	Paramilitary	17 (29.3)	0 (0.0)	41 (70.7)		
	Parastatal	18 (29.0)	0 (0.0)	44 (71.0)		
Have you done PSA before?	Armed Forces	13 (30.2)	7 (16.3)	23 (53.5)	4.992	0.892
	Core Ministry	17 (33.3)	6 (11.8)	28 (54.9)		
	Judiciary	17 (39.5)	5 (11.6)	21 (48.8)		
	Legislative Agency	14 (28.0)	5 (10.0)	31 (62.0)		
	Paramilitary	20 (34.5)	11 (19.0)	27 (46.6)		
	Parastatal	22 (35.5)	7 (11.3)	33 (53.2)		
Do you do PSA test regularly?	Armed Forces	15 (34.9)	14 (32.6)	14 (32.6)	7.594	0.668
	Core Ministry	20 (39.2)	14 (27.5)	17 (33.3)		
	Judiciary	13 (30.2)	18 (41.9)	12 (27.9)		
	Legislative Agency	16 (32.0)	15 (30.0)	19 (38.0)		
	Paramilitary	16 (27.6)	20 (34.5)	22 (37.9)		
	Parastatal	21 (33.9)	17 (43.5)	14 (22.6)		
Are you willing to undergo screening for BPH?	Armed Forces	22 (51.2)	0 (0.0)	21 (48.8)	3.746	0.587
	Core Ministry	23 (45.1)	0 (0.0)	28 (54.9)		
	Judiciary	17 (39.5)	0 (0.0)	26 (60.5)		
	Legislative Agency	18 (36.0)	0 (0.0)	32 (64.0)		
	Paramilitary	29 (50.0)	0 (0.0)	29 (50.0)		
	Parastatal	25 (40.3)	0 (0.0)	37 (59.7)		

DISCUSSION

According to this study, majority of the participants indicated that they have not heard about Benign Prostate Hyperplasia (BPH), their responses appear to be affected by their age, level of education, work sector and place. However, this finding is critical to the evaluation of knowledge, attitude and perception of BPH amongst male civil servants in F.C.T Abuja. An earlier study had identified the need for knowledge and awareness of the public on prostatic diseases as well as its importance [12].

The findings from this study, despite focusing on the knowledge, awareness and perception to BPH, revealed modalities towards prevention of coming down with prostatic diseases. Furthermore, the thematic analysis provided evidence that the source of knowledge and awareness of BPH and any other form of prostatic diseases amongst the study participants is poor which is similar to the report by [13] carried out on African American men.

Study respondents indicated that they have no knowledge about prostate cancer and prostatitis, their responses appear to be affected by their age, level of education, work sector and place. It was discovered in this study that awareness about prostate cancer amongst the participants was low, in contrast to age, level of education work sector and place. This could be attributed to the fact that the disease is more prevalent among people of age [14, 15]. Another factor of importance is the inadequacy of national screening program for prostatic diseases which has given the impression of a low occurrence of the disease in Nigeria [16, 17].

In this study, respondents agreed that all adult men should undergo screening for BPH and early consultation with Healthcare workers about urinary symptoms is helpful in reducing the risk of contracting BPH and other forms of prostatic diseases.

Although the efficacy of BPH, prostatitis and prostate cancer in asymptomatic men in reducing the disease mortality is controversial [18]. A recent study by [19], suggests that early detection of such disease is beneficial. Whilst this work provides evidence that validates the advantages associated with early detection of prostate diseases, the heightened interest in research revealed in this study represents an opportunity to influence the knowledge, attitude and perception of prostate diseases and public awareness about the causes, methods of detection, investigation and treatment are pre-requisite for early detection of prostatic diseases.

Participants in this study indicated that they had no knowledge about prostate specific antigen (PSA) screening and, their responses appear to be affected by their age, level of education, work sector and place. Many debates still continue around the role of PSA in the early detection and diagnosis of BPH and prostate cancer.

Three studies carried out earlier showed the significance of v screening for the detection and diagnosis of BPH and prostate cancer [20]. Although majority of the respondents has not done Prostate Specific Antigen test before nor do it regularly. Caution needs to be taken on Prostate Specific Antigen testing as a Cochrane review by [21], found no evidence for the reduction in prostatic disease mortality as a result of screening, and found negative effect associated with Prostate Specific Antigen screening to be common and severe.

A recent consensus meeting of European experts in 2018 recommended the limitation of Prostate Specific Antigen screening for prostatic disease [22]. Also, the public need to be made aware of the limitations of Prostate Specific Antigen, and using patient decision aids to improve the knowledge of Prostate Specific Antigen [23].

Majority of the study participants indicated the willingness to undergo screening for BPH, their responses appear to be affected by their age, level of education, work sector and place. BPH screening helps prostatic diseases before any symptoms occurs. BPH screening is an effective means for early detection and successful treatment of BPH, thus reducing mortality rate [24]. Positive attitudes and participation in screening services lead to early detection and treatment. In addition, a study conducted in South Africa (Johannesburg) on knowledge, attitudes and practices of men concerning BPH and found that majority of the respondents had positive attitudes towards BPH screening [25].

Similarly, a study conducted by [26] on knowledge, attitudes and screening practices regarding prostatic diseases in Nigeria reported that 55.7% of the respondents showed negative attitudes towards prostate cancer screening. Evidence shows that the level of knowledge about BPH and Prostatic diseases, education, age, socioeconomic status and occupation both influence an individual's level of attitudes towards BPH screening [27, 28, 26, 29].

CONCLUSION

Findings from this study indicated that most male public servants in F.C.T Abuja have limited knowledge about BPH and Prostatic diseases in general, and Prostate Specific Antigen screening irrespective of their socio-economic status and level of education.

Health education programs are therefore required to increase the awareness of the male public servants about this major health issue to reduce the health burden due to the disproportionately high morbidity and mortality from the disease of the gland.

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