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Knowledge and Attitude about Benign Prostatic Hypertrophy among Male Adult Patients Attending Surgical Department at University Teaching Hospital of Butare

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ABSTRACT

Purpose: The aim of this study was to assess knowledge and attitude about benign prostatic hypertrophy (BPH) among male adult patients attending surgical department at CHUB.

Methodology: This was a cross-sectional stud of 256 of adult male patients attending surgical department at CHUB. Data were analyzed using SPSS version 25 and the results expressed in form of frequencies and percentage. A non-probability convenience sampling technique was utilized to select study participants.

Results: 256 patients were enrolled in the study most of them being in the 50-70 years age group (57.8%). Most were rural population, less educated and farmers. Most rural participants didn't know anything about prostate diseases (51%) compared to 41.9% of urban participants. Most people especially the old ones think that the prostate is an illness rather than an organ. Highly educated people have better knowledge of prostate. Perceived reasons of delays include not knowing symptoms, poverty among others.

Unique Contribution to Theory, Policy and Practice: This study adds to the theoretical understanding of health literacy by highlighting the link between socio-demographic factors such as education level, occupation, and residence on the knowledge about benign prostatic hyperplasia (BPH). From a policy perspective, the findings emphasize the need for targeted health education policies that prioritize rural communities and populations with limited formal education. In practice, the results support the design and implementation of community-based awareness programs, particularly for farmers and other high-risk groups, to improve early detection and management of BPH.

Keywords: *BPH, Knowledge, Attitude*

JEL Codes: *I10, I21, I12*

1. Introduction

Benign prostatic hypertrophy is a common prostatic disease in aged men characterized by low urinary tract symptoms like nocturia, urgency, frequency, hesitancy, intermittency, dribbling and incomplete urination. As the prostatic gland surrounds the urethra, its enlargement decreases the urethral lumen causing tension at bladder outlet hence decrease of urine flow and increased residual urine. A study done in China found a mean of 68 years for patients with BPH[1]. In USA, a study done by Egan revealed a prevalence ranging between 50% and 75% in men aged 50 years and above while it was 80% in those above 70 years[2]. BPH can cause urinary tract infections as result of incomplete bladder emptying but it also causes social discrimination as urine odor is characteristic in patients with overflow incontinence as complication of BPH. Older adults face challenges in accessing health care because of reduced physical activity, financial limitations, psychological issues, and other factors. Among patients with BPH requiring self-care, advancing age is associated with lower levels of knowledge acquisition, cognitive function, and other abilities in disease management compared to younger adults[3].

In Nigeria, the study reported that 53.1% and 57.4% of male over 40 years old had poor knowledge and poor attitude about prostatic diseases screening and treatment respectively. The level of knowledge and attitudes related screening and treatment of prostatic diseases were both low and were influenced by level of education and occupational status while screening practices were found to be poor and were influenced by level of education of respondents [4].

Some patients with BPH displayed negative attitude for seeking medical care by neglecting consequences of delay to seek medical treatment while other delayed by coping with the symptoms instead of attending health institutions. Experience of coping with the symptoms among the patients diagnosed with BPH ,influence of colleagues on decision making of seeking medical care, not considering consequences of delaying medical treatment and negative attitude toward seeking medical help were reported as the main barriers[1].

In Korea, a survey conducted on patients' and urologists' perceptions regarding BPH reported that only 40% of patients understood the risk of BPH progression to prostatic cancer. Furthermore, patients and urologists showed significant differences in their perceptions of the risks of untreated BPH, the expected benefits of treatment, and the potential adverse side effects[5]. Although some authors reported favorable knowledge about BPH in a study done in Indian in 2017 revealed that 62% had mean knowledge, 28.2% had good knowledge, while only 9.8% had poor knowledge on BPH[6].

In Ghana BPH prevalence was found to be responsible for 60% severe acute urinary retention cases and 28.6% of hematuria. The global prevalence of BPH ranges from 28% to 62% among men over 50 years old, including those in the United States, the United Kingdom, Japan, and Ghana[7]. In Nigeria, there is need to improve public health education about BPH among aged male populations because there is low level attitude, knowledge and screening toward prostate

diseases. The most common misconception about the cause of prostatic diseases was that they are sexually transmitted[4].

There are no studies done in Rwanda about population knowledge on BPH, but it is observed that most of patients delay consulting. The aim of this study is to assess the knowledge and attitude about BPH among male adult patients attending surgical department at CHUB.

Methods

Study setting and Study setting

This study used a cross-sectional design with quantitative approach, depending on primary data collected from among male adults' patients at CHUB from July 2023 to October, 2023. A non-probability convenience sampling technique was used to select the study participants. Butare University Teaching Hospital (CHUB) is a referral teaching health care facility situated in district of HUYE, Rwanda. It serves area covering the southern province and big part of western provinces.

Study population, Eligibility criteria and Exclusion criteria

The research was taken into account among adult's male's patients no less than 40 years and above attending surgical department at CHUB from July 2023 to October, 2023 with signed consent from July 2023 to October, 2023 were interviewed. Butare University Teaching Hospital (CHUB) is a referral teaching health care facility situated in district of HUYE, Rwanda. It serves area covering the southern province and big part of western provinces. Male adult patients less than 40 years and voluntary non-participating in the study and non-consenting patients.

Sample size and sampling procedure

Sample size refers to the number of units or people that are chosen from which the researcher wishes to gather information or data[8]. A sample size of 256 respondents was selected for the study. The sample size was determined using Slovin's formula (1960) below;

$$\mathbf{n} = \frac{\mathbf{N}}{\mathbf{1+N(e)^2}}$$

Where;

n-the sample size

N - the population size (710) it's an average taken when we consider the number of adults male patients attending surgical unit per three months.

e - the acceptable sampling error (0.05)

$$n = \frac{710}{1+710(0.05)^2} = 256 \text{participants}$$

From the sample size calculation above, the total sample size from the study will be 256 adult male patients.

Data collection tool

The questionnaire had three sections. Section A emphasised on socio-demographic characteristic of respondents that were composed by 4 variables including residence, age group, educational level and occupational activities. Section B aimed at identifying the level of knowledge and attitude on benign prostatic hypertrophy in patients attending surgical department at CHUB and was composed by 16 questions, 7 among them were multiple choices where the respondents were asked to tick the best answers while 9 remaining questions were open –ended where respondents had to choose between yes or no. Section C was about barriers compromising early consultation of patients with benign prostatic hypertrophy.

Validity and reliability of the questionnaire

The researchers confirmed that the tool was valid according to the research objectives as well as research questions. The quality of the data collection tools was ensured by pre-testing the questionnaire among few members of the sampling frame before the actual data collection process.

Statistical analysis and data management

Data were collected using hard copies of data collection sheets and from the hard copies, data were entered onto a password protected Excel database, cleaned and exported to the Statistical Software for Social Sciences (SPSS) version 25.0 for statistical analysis. when completed the hard copies were kept in locked cabinets to maintain participant confidentiality.

Confidentiality was also maintained by assigning each participant a unique study identification number. Pearson's chi-squared test was used to determine whether there was an association between the area of residence and knowledge of participants. For all statistical comparisons, the level of significance was set at $p < 0.05$. The independent variables consisted of inadequate information on screening and aetiology of BPH, lack of bothersome symptoms, consider themselves at low risk, own secret keeping. The dependent variables were stigma, confusion between prostatic cancer and BPH, fear of being diagnosed with prostatic cancer, considering BPH.

Ethical considerations

This study was reviewed and approved by the Ethics committee of CHUB (Approval No: REC/UTHB/059/2023). Participants had the right to consent freely after being explained the benefits of participating in the study. The participants' privacy and confidentiality were preserved by omitting all identifiers.

Throughout the study, all data was kept confidential, privacy was carefully maintained, and the identities of respondents remained anonymous to ensure their protection and confirmed ethical standards. Before conducting interview, all respondents provided informed consent after receiving comprehensive information related the study.

Results

A total of 256 participants were enrolled in the Study. Majority of participants were from rural area (194, 75.8%) and most of them were farmers with (154, 60.2%). Most participants were 60-70 years group (95, 37.1%), followed by 50-60 years old group (53, 20.7%). Majority of respondents attended primary education with 157(61.3%) while only 31(12.1%) attended secondary and about 57(22.3%) didn't attend any education (Table 1).

Participants were asked if the prostate can have illness or if it's an illness itself. Most people especially the old ones think that the prostate is an illness rather than an organ which can have a disease. For example, 51% of participants aged 50-60 years think the prostate is a disease while 21% think it's an organ which can have an illness. For other age groups it was found to be as follows: 40-50 years (39% vs 21%), 60-70 years (40% vs 21%), 70-80 years (47% vs 17%), >80 years (67% vs 11%). The trend is the same when looked at other perspectives like area of residence, occupation and low education level. However, highly educated people have better knowledge of prostate: Bachelor (25% vs 75%), Master (33% vs 67%).

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Table 1: Knowledge about Prostate as an organ or disease by Demographic characteristics of Participants

Variables	N=256	No	Yes	Itself is an illness
Age group	N (%)	N (%)	N (%)	N (%)
40-50	33 (12.9)	13 (39)	7 (21)	13 (39)
50-60	53 (20.7)	17 (32)	9 (17)	27 (51)
60-70	95 (37.1)	37 (39)	20 (21)	38 (40)
70-80	66 (25.8)	24 (36)	11 (17)	31 (47)
Above 80	9 (3.5)	2 (22)	1 (11)	6 (67)
Residence				
Rural	194 (75.8)	73 (38)	34 (18)	87 (45)
Urban	62 (24.2)	20 (32)	14 (23)	28 (45)
Occupation				
Others	11 (4.3)	2 (18)	5 (45)	4 (36)
Not employed	44 (17.2)	16 (36)	8 (18)	20 (45)
Farmer	154 (60.2)	67 (44)	19 (12)	68 (44)
Public employee	7 (2.7)	0 (0)	2 (29)	5 (71)
Businessmen	40 (15.6)	8 (20)	14 (35)	18 (45)
Education level				
Primary	157 (61.3)	56 (36)	27 (17)	74 (47)
Secondary	31 (12.1)	7 (23)	9 (29)	15 (48)
Bachelor's	8 (3.1)	0 (0)	6 (75)	2 (25)
Master's	3 (1.2)	0 (0)	2 (67)	1 (33)
No education	57 (22.3)	30 (53)	4 (7)	23 (40)

As illustrated in table 2 shows that 125 (48.8%) of participants don't know any disease that affect the prostate. 58(22.7%) of population know that the prostate can have enlargement, 56 (21.9%) know it can have cancer while 17 (6.6%) know it can have both. No significant difference between the area of residence regarding that knowledge (chi: 3.78, p: 0.286).

Table 2: Knowledge on prostate illnesses by residence

Prostate condition	Residence		
	Rural	Urban	Total
Cancer	37 (19,07)	19 (30,65)	56 (21,88)
Enlargement	45 (23,20)	13 (20.97)	58 (22.66)
Don't know	99 (51.03)	26 (41.94)	125 (48.83)
Both Cancer and enlargement	13 (6.70)	4(6.45)	0.17 (6.64)
Total	**194 (100.00)**	**62 (100.00)**	**256 (100.00)**

Pearson chi-square (2) = 3.7801 Pr=0.286

Table 3 shows that respondents from age group (40-50) who didn't know BPH symptoms at 73% compared to respondents above 80 ages who knew about BPH symptoms at 56%, and respondents who didn't attend any education (68%) did not know BPH symptoms followed by the respondents who attended primary education (52%). Respondents with Bachelor level have higher knowledge of BPH symptoms (75%). There is almost equal proportion of knowledge among less educated respondents.

Table 3: Knowledge of BPH symptoms

Variables			
Age group	**No**	**Yes**	**Total**
40-50	24 (73)	9(27)	33
50-60	27 (51)	26(49)	53
60-70	50 (53)	45(47)	95
70-80	34 (52)	32(48)	66
Above 80	4 (44)	5(56)	9
Total	**139 (54)**	**117(46)**	**256**
Residence			
Rural	104 (54)	90(46)	194
Urban	35 (56)	27(44)	62
Total	**139 (54)**	**117(46)**	**256**
Occupation			
Others	4 (56)	7(64)	11
Not employed	26 (59)	18(41)	44
Farmer	87 (56)	67(44)	154
Public employee	4 (57)	3(43)	7
Business	18 (45)	22(55)	40
Total	**139 (54)**	**117(46)**	**256**
Education			
Primary	81 (52)	76(48)	157
Secondary	15 (48)	16(52)	31
Bachelor's	2 (25)	6(75)	8
Master's	2 (67)	1(33)	3
No education	39 (68)	18(32)	57
Total	**139 (54)**	**117(46)**	**256**

Table 4: Knowledge on the reasons of delay of seeking BPH treatments

Reasons of delay of seeking BPH treatment	N	%
Do not know the symptoms	57	22.3
Traditional healers	19	7.4
Poverty	16	6.2
Delay of transfer from HCs	14	5.4
No information on disease	12	4.6
Do not know the symptoms, Delay of transfer from HCs	8	3.1
No complicated symptoms with no consequences	7	2.7
Do not know the symptoms, No complicated symptoms with no consequences	5	2.0
Do not know the symptoms, stigma, Suspicion of prostatic cancer	4	1.6
No complicated symptoms with no consequences, Do not know the symptoms, Suspicion of prostatic cancer, traditional healers, Delay of transfer from HCs	4	1.6
No complicated symptoms with no consequences, Do not know the symptoms, stigma, Delay of transfer from HCs	4	1.6
No complicated symptoms with no consequences, Do not know the symptom, traditional healers, Delay of transfer from HCs	3	1.2
Few doctors	3	1.2
Ignorance	3	1.2
Stigma	2	0.8
Others	95	37.1

When asked the reasons they delay consulting, most respondents reported not knowing the symptoms, consulting traditional healers first, poverty, delay of transfer and lack of information on the disease or a combination of some of them as depicted in figure 4.

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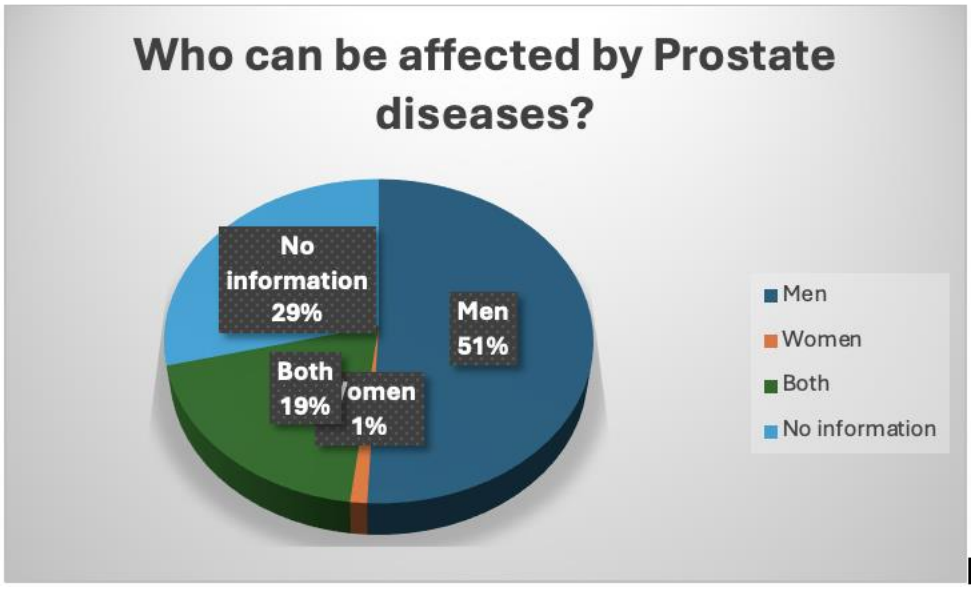

Figure 1: Who can be affected by prostate disease.

When asked who can be affected by prostate diseases, 130(50.78%) of participants reported that it only affects men, 3(1.17%) think only women are affected, 49(19.14%) think both men and women are affected, while 74(28.91%) reported that they didn't have any information about it (Figure 1).

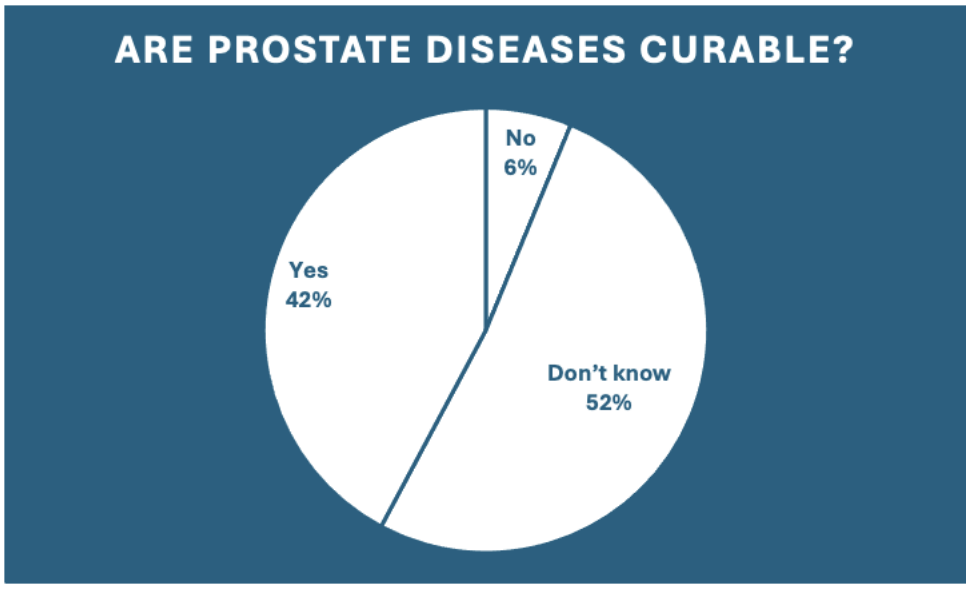

Figure 2: Is BPH curable?

Participants were also asked if BPH is treatable and more than a half (51.6%)said they don't know, 42% said it's curable while 6.2 said it's not curable (Figure 2).

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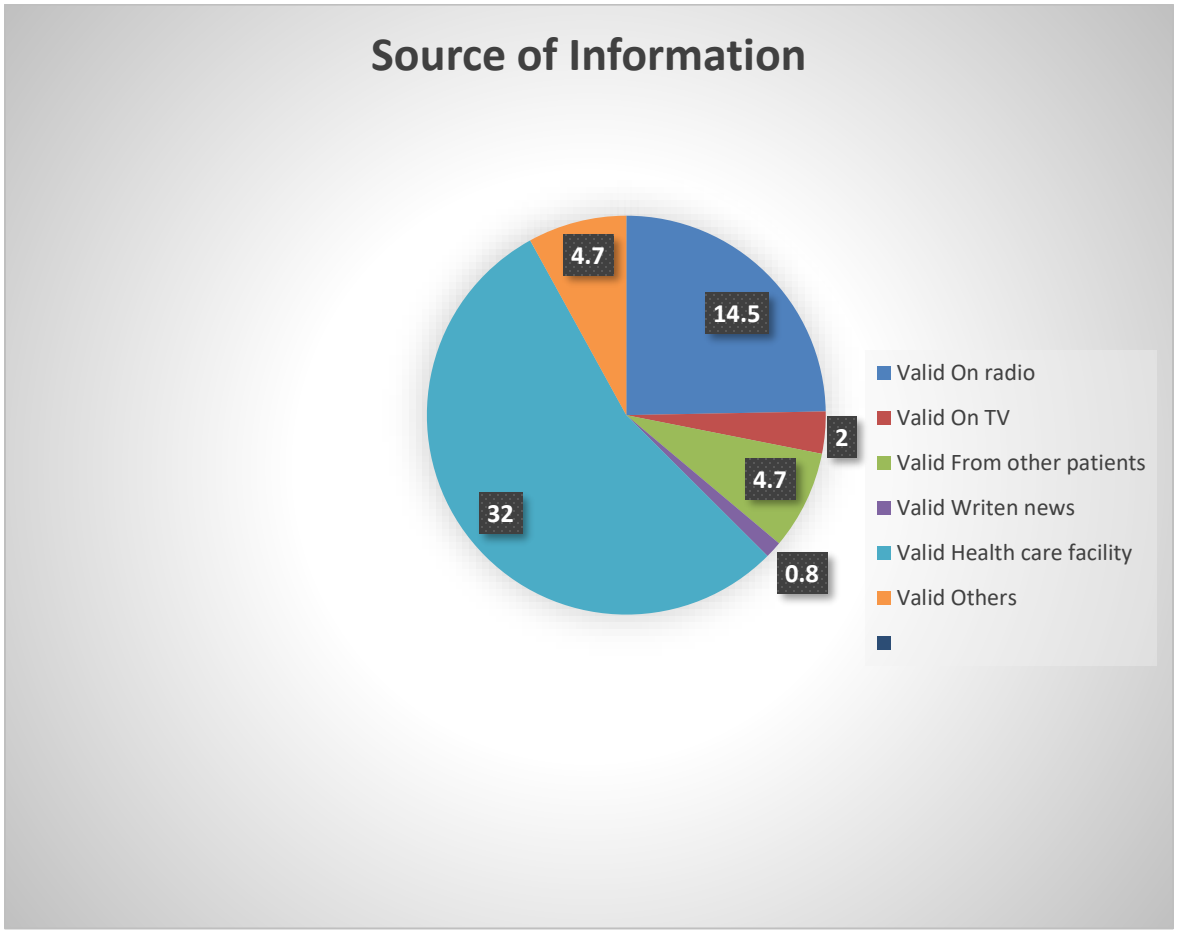

Figure 3: Source of information

When asked where they get information from, most of respondents 82 (32%) reported Health care facility followed by Radio 37 (14.5%) (Figure3).

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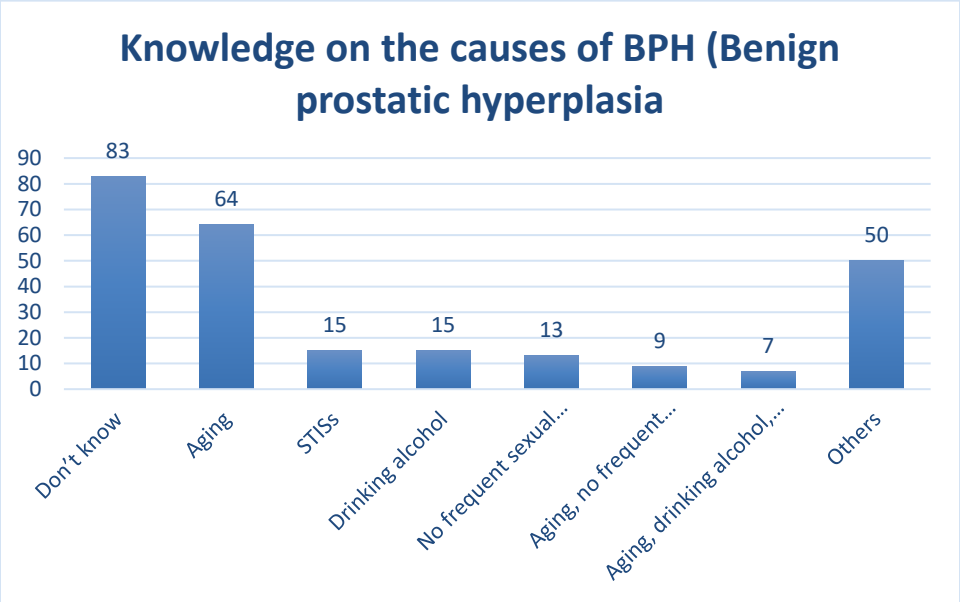

Figure 4: Knowledge on the causes of BPH (Benign prostatic hyperplasia)

From Figure 4, we can notice that 83 (32.4%) don't know what causes BPH, 64 (25%) think it's causing by aging while smaller proportions think it can be caused by STIs, drinking alcohol, less frequent sexual intercourse among others.

Discussions

The aim of this study was to assess knowledge and attitude about BPH among male adult patients attending surgical department at CHUB. The current study demonstrated that there is low awareness on BPH (32.42%) which is similar to what was found in the study done in Southwest Nigeria in 2017 which demonstrated that 32.5% had low awareness on BPH[4]. But the study done in Saudi Arabia in 2020 revealed higher awareness regarding BPH at 70%[9]. Low knowledge can affect compliance to treatment as revealed in a study done in Slovakian population where patient's knowledge level may decrease BPH risk of progression and consequently the risk of surgery, as knowledgeable patients tend to give a priority and comply with medical treatment[10]. The current study finding showed that participants mainly received information about prostatic illness from health care facility, radio broadcasting, other patients, television, written news and others while In Rivers state 2023 ,their study showed that adult men of Akulga and Rumuodor had received information on prostate cancer from television, radio and community town announcer[11]. Similarly the study done in Southwest Nigeria in 2017 showed that participants got information mainly from radio and television[4]. In Rwanda there are other platforms that can be used to spread the information and educate the population like community works (umuganda) and other gathering occasions like car-free days which are used for other health campaigns. It is known that lack of knowledge may hinder the prompt to seek care for the condition.

From our study findings, most participants (178 , 69.5%) delay to seek treatment in health facilities because they did not know the symptoms, attend traditional healers, poverty, delay of transfer from health center and lack of information on the disease while the findings from the study done in United states in 2007 showed that men very often delay seeking medical care due to incomplete knowledge on BPH and its symptoms instead they chose coping methods such as self–medications and structuring daily activities[12].

Different other factors may interfere with early consultation and those include cultural beliefs and stigmas from the disease complications. The findings from a study done in Kenya in 2021 found that the factors compromising early screening include lack of knowledge, fatalistic belief, low risk perception and stigma[13]. Also the study done in China in 2022 found that people delay for seeking medical treatment due to the fact that people did not have sufficient cognition of symptoms, coping behavior symptoms instead of seeking a physician, negative attitude regarding seeking medical treatment, influence of other people on taking decision for seeking medical treatment[1]. Our findings corroborated findings from other studies like the one conducted in Korea in 2011, which showed that BPH patients were not having the right information about their disease. Their perspective on the treatment may also have been different from that of their urologists[5]. The scarcity of specialized care in the country may also play a role in lack of information and delay of care delivery. With urologists currently only available at referral level, access to quality care maybe deficient in addition to system issues.

Limitation and strength of the study

The limitations include probable recall and selections biases, unrepresentative sample size because it was done in one centre hence the results should not be generalized. It was not possible to verify the authenticity of responses. The strength of the study include it's originality, time management, and the participants high response rate.

Conclusion

This study revealed gaps in the knowledge and attitude on BPH in patients attending surgical department at CHUB. Some of the determinants of low knowledge level include low education level, living in rural area, being unemployed and farmer. The study also showed the barriers compromising early consultation which include ignorance and access to care among others. There is compelling need for awareness about prostate conditions and their presentation in the community focusing on the groups at risk.

Authors' contribution

Dorothée NIYONSABA was the primary investigator and led the study design, data collection, data analysis and manuscript preparation. Valens NSENGIMANA was responsible study design, Theogene NDAHAYO was responsible for data collection and data analysis, Didier NSANZIMFURA was responsible for data collection while Innocent NZEYIMANA contributed

to study design data analyses, manuscript review and critical revision. All authors were revised the study with a common understanding.

Conflict of interest

There are no competing conflicts of interest to disclose.

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