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Quality of Life among Clients with Benign Prostatic Hyperplasia

Alaa Mohamed E.lsayed, Seham Guirguis Ragheb, Mona Abo Bakr

Community Health Nursing Department, Faculty of Nursing, Ain Shams University

Abstract

Back ground: Benign prostatic hyperplasia is non-cancerous enlargement or growth of the prostate gland. Benign prostatic hyperplasia is not usually life-threatening but symptoms can have a major effect on quality of life. **The aim** of this study was to assess quality of life among clients with benign prostatic hyperplasia. **Research design:** A descriptive analytical study was utilized. **Setting***:* This study was conducted a tthree urological outpatients' clinics at El Nil hospital for health insurance at shubra elkheima city. **Sample**: A purposeful sample of 240clients with benign prostatic hyperplasia. **Tools. Interviewing questionnaire** for clients ***was*** used which included five **parts :(I)** Socio-demographic characteristics about clients. **Part (II)**past history about clients, **part (III***)* knowledge assessment for client related to benign prostatic hyperplasia.**Part (IV**) Assess quality of life among clients. **Part (V)**Assess health needs and health problems of clients .**Results**: 78.3% of clients had unsatisfactory total knowledge regarding benign prostatic hyperplasia.78.3% of clients were moderately affected related to their quality of life. 61.2% of clients were not achieved their total needs and 100% of clients had sleeping difficulties, dysuria and hesitancy. **Conclusion**: The study concluded that a highly statistical significance difference between knowledge of clients with benign prostatic hyperplasia and their socio demographic characteristics and a highly statistical significance difference between knowledge of clients with benign prostatic hyperplasia and their quality of life. **Recommendations:** the study recommended that; increase public and clients awareness throughout educational sessions, educational programs and campaigns about benign prostatic hyperplasia and further researches to study the different factors that increase the partners' burden and their complaints to find out the suitable solutions.

Key words: Quality of Life, Benign Prostatic Hyperplasia.

Introduction

Benign prostatic hyperplasia (BPH) is non-cancerous histological diagnosis characterized by proliferation of the cellular elements of the prostate, in which the prostate gland enlarges beyond the normal volume of 20-30 mL as part of the aging process ***(Qian, 2017).***

The prevalence of BPH increases significantly with age greater than 50 % of men will have BPH at 60 years of age, whereas approximately 90 % of men will have BPH by age 85years and the incidence is approximately 25% in men at 50 years old and more ***(Xue, et al., 2016).***

Lower urinary tract symptoms (LUTS) represent one of the most common

and bothersome conditions seen in daily urologic practice, affecting at least one in every four men older than 40 years having a negative impact on health-related quality of life and are associated with high personal and societal costs, although structural anomalies, neurological disease and infections can play roles, benign prostate enlargement is still by far the mostinfluential factor leading to male LUTS***(Jung, et al., 2017).***

Benign prostatic hyperplasia may also have a detrimental effect on mental health and social economy, in men with severe symptoms, the annual risk of having at least one fall increased by 33%, falls in the elderly are a major concern and can result in pain, fracture, disability and sometimes mortality, the severity of LUTS is also strongly correlated with anxiety, depression, insomnia and sexual dysfunction, so BPH has a great effect on quality of life ***(Speak man, et al., 2015).***

Risk factors for the development of BPH include age, genetics, hormones, growth factors, inflammation, and lifestyle factors, when the prostate enlarges it may constrict the flow of urine, nerves within the prostate and bladder may also play a role in causing urinary frequency, urinary urgency, hesitancy incomplete bladder emptying, straining and dribbling ***(Nelson and Good, 2015).***

BPH may lead to serious complications such as urinary retention, renal insufficiency, recurrent urinary tract infections, gross hematuria and bladder calculi, the treatment options include lifestyle intervention and behavioral modification at first degree, pharmacotherapy, minimally invasive procedure and surgery ***(Calogero, et al., 2018).***

The community health nurse seeks to initiate changes that positively affect health of clients with benign prostatic hyperplasia through life style and behavior modifications, engages in collection, analysis of data and systematic investigation for solving problems, preventing complications of BPH and enhancing community health practice especially at primary health care settings (***Chin, et al., 2017).***

Significance of the Study

Globally, BPH affects about 210 million males as of 2010(6% of population), the prostate gets larger in most men as they get older, the risk of developing BPH over the next 30 years is 45%, incidence rates increase from 3 cases per 1000 man-year at age 45-49 years, to 38 cases per 1000 man-year by the age of 75-79 years, while the prevalence rate is 2.7% for men aged 45-49, it increases to24% by the age of 80 years ***(Anderson, et al.,2016).***

The prevalence and the severity of BPH in the aging male can be progressive and is an important diagnosis in the healthcare of our patients and the welfare of society, although lower urinary tract infection secondary to BPH (LUTS/BPH) is not often a life-threatening condition, the impact of lower urinary tract infection on BPH on quality of life can be significant and should not be underestimated ***(Urology Care Foundation, 2014).***

Benign prostatic hyperplasia is a common problem that affects the quality of life in approximately one third of men older than 50 years, BPH is histologically evident in up to 90% of men by age 85 years, worldwide approximately 30 million men have symptoms related to BPH and in Egypt approximately 121,232 clients have BPH ***(U.S Census Bureau ,2004).***

Aim of the Study

This study aims to assessing quality of life among clients with Benign Prostatic Hyperplasia through:

1. Assessing clients' knowledge regarding benign prostatic hyperplasia.

2. Assessing quality of life dimensions (physical, social, medication interference, and psychological) for clients with Benign Prostatic Hyperplasia.

3. Assessing health needs and problems for clients with benign prostatic hyperplasia.

Research Question

1. Is there relationship between clients' knowledge and their socio-demographic data?

2. Is there relationship between clients' knowledge and their quality of life regarding Benign Prostatic Hyperplasia?

3. Does Benign Prostatic Hyperplasia affect clients' quality of life?

Subject and Methods
Research design:

Descriptive analytical study was used to assess quality of life among clients with benign prostatic hyperplasia.

Setting

The study will be conducted at health insurance clinics At EL Qalyubiyah Governorate, will be include 25% from total number of health insurance clinics ,that is include 3 outpatients clinics at El Nil hospital, El Nil clinic and Nasr clinic at Shoubra El kheima. These setting are selected especially because they serve a large number of clients from different governorates.

Sampling

The sample was collected through six months. Purposive sampling was selected. The total number of attending clients at 2015/2016 was 12000 clients at pre mentioned 3 out patients clinics. The total sample size was 2% from total number which representing 240 clientschosen randomly according to inclusion criteria: (Clientsalready diagnosed with BPH from 6 months).

The following tools were used for data collection:
An interviewing questionnaire composed of five parts.

It was developed by the investigator based on review of the literature and content validated by five experts from community health nursing field -faculty of nursing. It was included the following:

Part (I):Socio-demographic data: such as client age, marital status, education, income, residence, occupation. It was close-ended questions. (Q1-7)

Part (II): Past history of clients with benign prostatic hyperplasia from clients and medical records: such as medical history, smoking, BMI, and pain between open- ended and close- ended questions. (Q8-21)

Part (III): Clients' knowledge related to benign prostatic hyperplasia: such as definition, risk factors/causes, signs and symptoms, methods of diagnosis, management, complications and recurrence prevention of BPH. It was close- ended questions. (Q22-28)

❖ **Scoring system**

composed of 7 questions 1score for every correct answer and zero score for every incorrect answer.

Total clients knowledge was classified into the following scale, satisfactory knowledge from 50% and more, while un satisfactory knowledge less than50%.

Part (IV): Quality of life for client with benign prostatic hyperplasia: it was close- ended questions modified by the

researcher from ***Erez, et al., (2016)*** included:

1- Physical dimension such as urinary system, respiratory system, gastro intestinal system and musclo skeletal system. (Q29-38)

2- Medications interference such as if medications affect work performance or affect activities of daily living. (Q39)

3- Psychological dimension such as feeling anxious, nervous and shame toward wife. (Q40).

4- Social dimension such as sharing in social activities and getting emotional support from family. (Q41)

Scoringsystem: composed of 13 questions, Zero score for always, 1score for some times, 2 score for never.

Quality of life was classified in to the following scale:

Not affected (less than 60%).Moderately affected (from 60% to less than 75%). Highly affected (from 75% and more).Total Quality of life was classified in to: Negative quality of life (<60%).Positive quality of life (≥ 60%).

Part (V):(A) - Clients' health needs: it was close- ended questions modified by the researcher from ***Elsenosy, (2016)*** included: (Physiological needs, psychological needs, social needs and sexual needs). (Q42-45)

❖ **Scoring system**

composed of 4 questions. 1 score for achieved and zero score for not achieved. Total clients' needs were classified in to the following scale: Not achieved (less than 60%).Achieved (from 60% and more).

Part (V): (B) - Clients' health problems*:* such as urinary problems, sexual problems and central nervous system problems .It was close-ended questions. (Q 46-48).

❖ **Scoring system**

composed of 3 questions. 1score for present and zero score for not present.

Operational design:

Preparatory phase

A review of current , recent , national and international related literatures covering all aspects of the research subjects using the available text books, journals, nursing magazines and websites to get a clear picture of the research problem.

Content Validity

The tools of the study were given to a group of five experts in nursing community field. The tools examined for content coverage, clarity, relevance, applicability, wording, length, format and overall appearance. Based on experts comments and recommendations; minor modifications had been made such as rephrasing and re arrangement of some sentences.

Pilot study

The pilot study was conducted to test the simplicity of language of tools. It was conducted to evaluate applicability of the study tools which used in data collection in addition to the time required to fill each tool. It was carried out on 10% of the clients with benign prostatic hyperplasia which had been included in this study. They were chosen and only from the outpatient urological clinics of El Nil hospital for health insurance at ShoubraElkheima city and the tool not modified.

Field Work

-An agreement letter from the dean of faculty of nursing at first.

-The investigator took approval for conducting the study from the head of El Nil hospital for health insurance at Shoubra Elkheima city.

-The investigators started with introducing himself and explain the aim of study for the selected clients, assured that the data collected will be confidential and would be only used to achieve the purpose of the study.

-The field work was carried out over two days(Saturday, Thursday) per week during morning shift from(8.00am to 2.00pm) in urology outpatient clinics in El Nil hospital for health insurance at Shoubra El kheima city For six months starting from(July to December 2017).

-Purpose of the study was explained to the clients before starting the interview where each client will be interviewed individually .Each client took 30:45 minute to complete the tool.The investigators read questions and wait to fill the questionnaire for client who can't read and write, while client who can read and write took questionnaire and filled it by themselves. Questionnaire took about 45 minute for client who can't read and write and 30-35 minute for client who can read and write to fill Questionnaire .The investigator filled (5-6) tools from clients daily.

Ethical Considerations

Approval from ethics and research committee at faculty of nursing/ Ain Shams University was obtained then informal client's agreement had been taken to be included in the study subject .Before carrying out the study the investigator clarified the aim of the study and its expected outcomes. The study subjects had been secured that all the gathered data will be confidential and will be used for the research purpose only. The study subjects have the right to withdraw from the study whenever they want. When it is possible the study subject would be provided with feedback about the research out comes.

Administrative Design

An official permission to carry out the study had been obtained from administrators of El Nil hospital for health insurance at Shoubra El kheima city through an issued letter from the dean of faculty of nursing/ Ain Shams University

Statistical analysis

The data obtained was statistically analyzed and presented in number, percentages, tables and diagrams as required and calculations were done by means of statistical software packages namely;"SPSS" version 21 to test the significance of the result obtained .The statistical analysis has included; the arithmetic mean, standard deviation and X^2test.

Results

Table (1): Distribution of clients according to their socio demographic characteristics. (N =240).

Characteristics	No	%
Age:		
35-40	24	10.0
40<60	101	42.1
≥ 60	115	47.9
Mean age = 58.6 ± SD2.37 year		
Marital status:		
single	-	--
Married	173	72.1
Divorced	23	9.6
Widow	44	18.3
Educational level		
No read and write	84	35.0
Read and write	73	30.4
Secondary level	48	20.0
Highly Educated	35	14.6
Occupation:		
Work and need long standing period	126	52.5
Don't work	114	47.5
Monthly income:		
Sufficient	30	12.5
In sufficient	210	87.5
Medication costs;		
Health Insurance	240	100.0
Residence:		
Rural Area	124	51.7
Urban Area	116	48.3

Table (1): shows that, 47.9%of clients with benign prostatic hyperplasia aged 60years and more with mean age 58.6 ±SD2.37 years. 72.1% of them were married in relation to marital status.35% of them were no read and write regarding to educational level. Also 52.5% of clients were worker and need long standing periods as regarding to their occupation while 87.5% of them had insufficient monthly income related to their need and 51.7%of clients live in rural area.

Figure (1): Distribution of total clients' knowledge score level related to benign prostatic hyperplasia: (N =240).

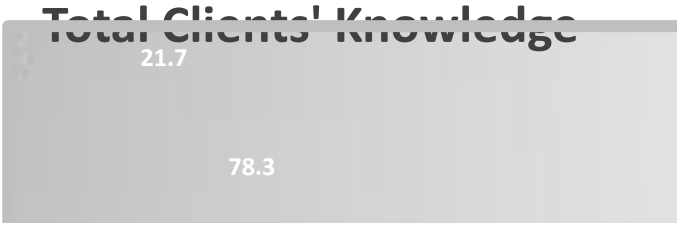

Figure (1): illustrates that 78.3% of clients had unsatisfactory total knowledge related to benign prostatic hyperplasia disease while 21.7% of them had satisfactory total knowledge regarding BPH.

Figure (2): Distribution of clients with benign prostatic hyperplasia according to total quality of life dimensions (n =240)**.**

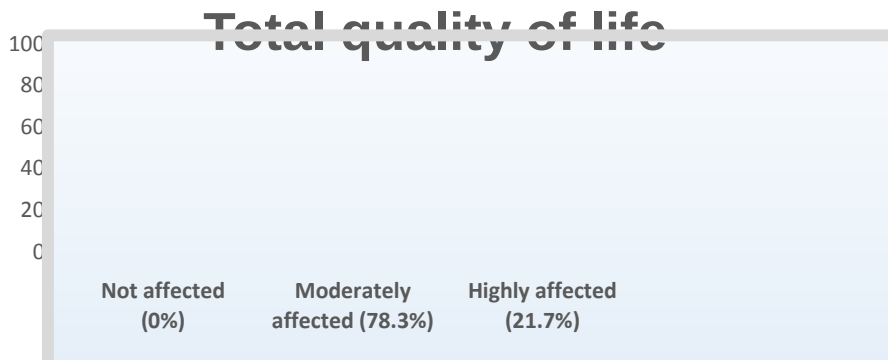

Figure (2): illustrates that 78.3%of clients with benign prostatic hyperplasia were moderately affected regarding to total quality of life dimensions while 21.7% of them were highly affected regarding to total quality of life.

Figure (3): Distribution of clients with benign prostatic hyperplasia according to total needs (N=240).

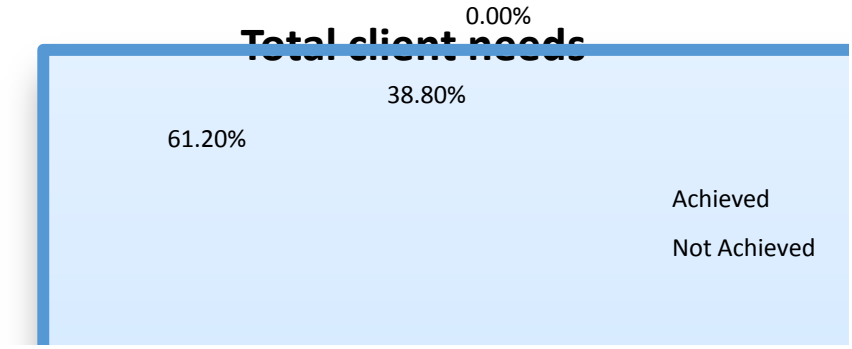

Figure (3): illustrates that 61.20% of clients with benign prostatic hyperplasia were not achieved their needs regarding to total client needs while 38.80% of them were achieved their needs.

Table (2): Health problems of clients with benign prostatic hyperplasia (N =240).

	Yes	%
Urinary problems*		
Urinary retention	196	81.7
Dysuria	240	100.0
Oliguria	240	100.0
Burning urination	240	100.0
Nocturia	240	100.0
Hematuria	71	29.6
Pus in urine	85	35.4
Urinary incontinence	216	90.0
Sexual problems*		
Loss of libido	196	81.7
Erection dysfunction	186	77.5
Can't keep erection during sexual relation	186	77.5
Pain during sexual relation	168	70.0
Burning sensation during ejaculation	173	72.0
Speed ejaculation	169	70.4
Central nervous system problems*		
Sleeping disturbance	240	100
Loss of concentration	199	82.9
Anxiety	147	61.3
Vision difficulties	110	45.8
Hearing difficulties	111	46.3

*Answers Are Not Mutually Exclusiv

Table (2) : shows that clients all clients had dysuria, oliguria, nocturia and burning urination, 90% of them had urinary incontinence regarding to urinary system problems also 81.7% of them had loss of libido, 77.5% of them had erection dysfunction and were not able to keep erection during sexual relation and 70.4% of them had speed ejaculation in relation to sexual problems while all clients had sleeping difficulties, 45.8% of them had vision difficulties and 46.3% had hearing difficulties in relation to central nervous system problem .

Table (3): Relation between socio-demographic characteristics of the studied sample knowledge of clients related to benign prostatic hyperplasia.(N=240).

Characteristics	Knowledge				Chi^2	P value
	satisfactory		unsatisfactory			
	No.	%	No.	%		
Age:						
35-40	24	10.0	--	--	120.7	<0.001*
40 < 60	28	11.6	73	30.4		
≥ 60	--	--	115	48.0		
Marital status:						
Signal	--	--	--	--	25.7	<0.001*
Married	52	21.6	121	50.4		
Divorced	--	--	23	9.7		
Widow	--	--	44	18.3		
Educational level:						
No read and write	52	21.6	32	13.4	128.2	<0.001*
Read and write	--	--	73	30.4		
Secondary level	--	--	48	20.0		
Highly Educated	--	--	35	14.6		
Occupation:						
Work and need long standing periods	52	21.7	74	30.8	60	<0.001*
Don't work	--	--	114	47.5		
Monthly income						
Sufficient	30	12.4	--	--	123.9	<0.001*
In sufficient	22	9.2	188	78.4		
Medication costs						
Health Insurance	52	21.6	188	78.4	--	---
On Client Cost	--	--	--	--		
Residence						
Rural Area	52	21.6	72	30.0	62.1	<0.001*
Urban Area	--	--	116	48.4		

*statistically significant at P<0.00 significant: HS

Table (3): shows that there was a highly statistically significant difference between knowledge of clients with benign prostatic hyperplasia and their socio demographic characteristics (P value <0.001).

Table (4): relation between knowledge related to benign prostatic hyperplasia of the studied sample and quality of life.

Knowledge	quality of life				Chi^2	P value
	positive		Negative			
	No.	%	No.	%		
Satisfactory	-------	------	52	21.7	240.000	<0.001*
Unsatisfactory	-------	------	188	78.3		

*statistically significant at P<0.00 significant: HS

Table (4): shows that there was a highly statistically significant difference between knowledge of client with benign prostatic hyperplasia and their quality of life (P value < 0.001).

Discussion

This study aimed to assessing quality of life among clients with Benign Prostatic Hyperplasia through assessing clients' knowledge regarding Benign Prostatic Hyperplasia, Assessing quality of life dimensions (physical, social and psychological) for clients with Benign Prostatic Hyperplasia and assessing health needs and problems for clients with Benign Prostatic Hyperplasia.

Part1:Socio-demographicharacteristics and past history of the study sample:

Considering socio-demographic data the present study revealed that less than half of study sample were aged from 60 years and more, with mean age (58.6±2.37 years) **(table 1).** These findings disagree with ***Ojewola, et al., (2017)*** who assess the prevalence of clinical benign prostatic hyperplasia amongst community –dwelling men in a south-western in Nigerian rural setting, the study done in Nigeria, found in study sample that the mean age was(64.3±12.6)years.This finding also disagreed with ***Takahashi, et al., (2018)*** who assess todalafil improves symptoms, erectile function and quality of life in patients with lower urinary tract symptoms suggestive to benign prostatic hyperplasia, the study done in fukuoka, japan, found in study sample that the mean age was (67.3 ±1.4) with more than two thirds (71.4%) older than 65 years. The difference may be related to the community lack of awareness about risk factors of benign prostatic hyperplasia thus resulting in having disease became at an earlier age.

Regarding marital status among study sample **(table1)**, the results revealed that more than two thirds of study sample were married and less than one fifth were widow. This result agree with ***EL-Gilany, et al., (2016)*** who assess sever symptoms of benign prostatic hyperplasia: prevalence, associated factors and effects on quality of life of rural dwelling elderly, the study done in Mansoura University, Egypt and found in study sample that more than three quarter were married and less than one quarter were widow. This result also disagree with ***Abraham, et al., (2016)*** who assess the knowledge and quality of life of patients with BPH, the study done in Manipal, India and found in study sample that all clients were married.

Regarding educational level , the current study found more than one third of the study sample were no read and write , more than one quarter read and write while one fifth were secondary level and more than one tenth of them were highly educated **(table1)**.These findings agree with ***EL-Gilany, et al., (2016)*** who found in study sample that 32.4 % were illiterate, 26% read and write while 31.7% were secondary level and 10% were highly educated. These results also disagree ***with Abraham, et al., (2016)*** who found in study sample that one fifth were illiterate, more than one quarter read and write and one fifth were highly educated. More than one third of study sample were no read and write the educational level affect on knowledge and practices of the clients.

As regard occupation, the present study revealed that more than half of clients were working with work need long standing periods and less than half of clients were not work **(table 1).** This result in disagreement with ***EL-Gilany, et al., (2016)*** who found in study sample that less than one quarter were worker and more than three quarter of them were not work. This result supported with ***Abraham, et al., (2016)*** who found in study sample that more than half clients were worker with the majority with work need long standing periods.Working need long standing periods may cause symptoms to be worsening and increase

the severity of benign prostatic hyperplasia disease.

The current study showed that more than three quarters of the clients had insufficient monthly income for family needs **(table 1)**. The poverty are limit the access to health care which essential for early detection and treatment of benign prostatic hyperplasia.***Carey and Rayburn, (2010)*** **.**This similarity may be due to that (majority of the clients) had insufficient monthly income that may force them to work; insufficient monthly income also may affect periodic check up or seeking for health care services or even taking medications.

Considering residence place, the present study revealed that, more than half of clients were reside in rural area and less than half were reside in urban area **(table 1).** This result agree with systematic research a total of 31prvalence rate estimates 25 countries by ***Shaun, et al., (2017)*** who reported that there was no significant difference between rural area, urban area or mixed area in increasing the prevalence rate of benign prostatic hyperplasia. This result may related to specific region of hospital in El-kalubeia governorate, from where sample were collected and which serves a large segments of people from different governorates.

Part 2: knowledge of clients with BPH regarding BPH disease

Regarding to total clients' knowledge score level the current study revealed that more than three quarter of clients under study had unsatisfactory knowledge ***(Figure1)***, this result disagreement with ***Abraham, et al., (2016)*** who found in study ample that about one tenth had poor knowledge, about two thirds had average knowledge and more than one quarter had good knowledge.This result also agree with systematic research a total of 31prvalence rate estimates 25 countries by ***Shaun, et al., (2017)*** who reported that there are significant gaps in knowledge, whichprovides opportunities for future researches .This may be related to difference in culture, aging and socio economic status that prevent them from getting access to knowledge and more than half of current study sample resides in rural area with low educational level which affect on their ability to get enough awareness about disease.

Part (3): Quality of life dimensions

The current study showed that more than three quarter of studied sample were moderately affected and more than one fifth were highly affected in relation to total quality of life dimensions **(figure 2)**, this result agree with ***Asare, et al., (2015)*** who assess shrinkage of prostate and improved quality of life management of BPH patients with croton membranaceus ethanolic root extract in Accra, Ghana and stated that more than two thirds of study sample had affected quality of life.This result also agrees with ***Haltbackk, et al., (2015)*** who found that 14% 55% and 31% of study sample had respectively mild, moderate and sever quality of life interference.

This result supported by ***Mark and Guiseppe, (2016)*** who reported that 98.3% of sample their quality of life were highly affected. This result disagree with ***Abraham, et al., (2016)*** who found that about two thirds of study sample had good quality of life and about two fifth had poor quality of life.This result in agreement with ***Ojewola, et al., (2017)*** who found that more than two thirds of study sample had impaired quality of life.

Part (4): Health needs and problems of clients with benign prostatic hyperplasia

In relation to total clients' needs , the current study showed that less than two thirds of study sample were not achieve their total needs while about two fifth were achievedtheir total needs **(figure3)**, this result supported by ***Okada, et al., (2015)***

who assess the impact of lower urinary tract symptoms on generic health related quality of life in male patient without co-morbidity in japan, reported that BPH had a negative impact on HRQOL domains of physical functioning, role physical, bodily pain, general health perception, vitality, mental health, sexual and social functioning.

. Regarding health problems the current study reported that the majority, more than one quarter, more than one third and the most of study sample respectively had urinary retention, hematuria, pus in urine and urinary incontinence while the studied sample totally had dysuria, oliguria, nocturia and burning urination related to urinary system problems **(table2),** this result contrast with ***Siyal, et al., (2015)*** who found that 22.9%, 4%, 1.5%, 3.5%, 5%,2%, 12.4% and 6.5% of study sample respectively had polyuria, hesitancy, nocturia, hematuria, urgency, retention, incontinence and burning micturition.

Nocturia is one of the most bother some symptoms in patients with BPH, not only for client but also for his partner .this probably due to the fact that nocturia is the major cause of disturbed sleep .Increase severity of nocturia leads to increased sleep disturbance such as frequent awaking and poor sleep. Not only increased frequent of nocturia had negative impact on quality of sleep, it also decreased perceived day time, vitality, energy and general feeling well-being.

Considering sexual problems, the current study revealed that the majority, more than three quarter and more than two thirds of clients under study respectively had loss of libido, erectile dysfunction and speed ejaculation **(table2),** this study supported by ***Kapoor, (2012)*** who reported that benign prostatic hyperplasia medications can cause ejaculatory, erection and sexual dysfunction .This result is in agreement with***Asare, et al., (2015)***who stated that the majority (97%) of studied sample had erectile dysfunction and loss of sexual desire. In contrast with***Vuichoud, et al., (2015)*** who assesses benign prostatic hyperplasia: epidemiology, economics and evaluation in Boston, USA, reported that 8% of his studied sample had erection dysfunction. This result may be due to side effects of medication and may due to urinary system problems.

Regarding central nervous system problems, the current study showed that all the clients under study were suffered from sleep disturbances **(table2),** this result disagrees with***Chartier and Tubaro, (2006)*** who found that one quarter of study sample had sleep disturbances.This result agrees with***Karatas, et al., (2010)*** who assess an insidious risk factor for cardiovascular disease: benign prostatic hyperplasia in Ankara, Turkey and stated that benign prostatic hyperplasia cause nocturia-induced sleep disturbances.

The current study revealed that the majority of clients under study had loss of concentration **(table2),** this result in accordance with ***Chartier and Tubaro, (2006)*** who found that BPH can cause loss of concentration and mood changes.

Disturbed sleep with reduced day time energy interferes with concentration, mood and performance of daily life activity for example the sleep interruption associated with nocturia may induce to cognitive impairment and may lead to impaired productivity at work so, it is not a burden on client and his partner but burden for society as well.

In relation to anxiety, the current study showed that less than two thirds of clients under the study had anxiety **(table2).** It may related to fear from developing to prostate cancer or fear from going to surgery.

The current study illustrated that less than half of studied sample had vision and hearing difficulties **(table2),** this result contrast with ***EL-Gilany, et al., (2016)*** who found that 10.9% of study sample had vision difficulties.This result may due to clients' age and physiological changes related to aging process(less than half had 60 years and more) or may related to medication side effects.

BPH and disturbances of sleep not only decrease the quality of life, they can also have more serious consequences, excessive fatigue and loss of concentration due to lack of sleep is also believed to be a major risk for traffic accidents and occupational accidents .there also indications that lack of sleep may increase the risk of morbidity (e.g. depression, cardiovascular and diabetes) and perhaps even mortality.

Part (5): Relation between study variables

The current study revealed that there was a highly statistically significant difference between knowledge of clients with benign prostatic hyperplasia and their socio demographic characteristics (P value <0.001). **(table 3),** this result goes in the same way with***Ojewola, et al., (2017)*** who stated that educational back ground, occupation, religion significantly increase awareness (p value<0.005) but age and gender did not. It may related to that the majority of current study sample were no read and write and resides in rural area and coming from different cultures also aging and poor socio economic status.

The current study revealed that there was a highly statistically significant difference between knowledge of client with benign prostatic hyperplasia and their quality of life (P value < 0.001) **(table4),** this result in disagreement with ***Abraham et al., (2016)*** who reported that there was no significance difference between knowledge and quality of life (P value , 0.755). It may be related to having knowledge about disease will increase the level of awareness, improve quality of life and health related quality of life.

conclusion

Based on the findings of the present study, it can be concluded that more than three quarters of clients had unsatisfactory total knowledge regarding benign prostatic hyperplasia. More than three quarters of clients were moderately affected related to quality of their life and more than half of the clients were not achieved their needs regarding to their total needs. More than three quarters of them had urinary incontinence, loss of libido and erection dysfunction.

There was a highly statistical significant between clients' knowledge related benign prostatic hyperplasia and their socio demographic characteristics also there was a highly statistical significance between clients' knowledge and their quality of life. .

Recommendations

1-Encourage educational sessions, programs and campaigns for early detection, diagnosis, treatment, prevention of complications, referral, healthy life style, follow up system and management long term side effects of treatment.

2- Simple Arabic booklet and brochure including brief ideas about benign prostatic hyperplasia disease at outpatients' clinics.

3-Further researches are needed to study the different factors that increase the partners' burden and their complaints to find out the suitable solutions.

4- Further study include large sample especially at rural areas**.**

References

Abraham, M., Pula, M., and Nayak, G., (2016): A Study to Assess the Knowledge and Quality of Life of Patients with BPH, International Education and Research Journal, 2(2).

Anderson, K., Gacci, M., and Chappl, R., (2016): Latest Evidence on the Use of Phosphodiesterase Type 5 Inhibitors for the Treatment of Lower Urinary Tract Symptoms Secondary to Benign Prostatic Hyperplasia, 70:P.p124-133.

Asare, A., Afriyie, D., Nagala, A., Appiah, A., Anang, Y., Musah, I., and Arhin, P., (2015): Shrinkage of Prostate and Improved Quality of Life: Management of BPH Patients with Croton MembranaceusEthanolic Root Extract. Evidence-Based Complementary and Alternative Medicine, P.p130-140.

Calogero, E., Burgio, G., Condorelli, A., Cannarella, R., and La vignera, S., (2018): Lower Urinary Tract Symptoms/Benign Prostatic Hyperplasia and Erectile Dysfunction: From Physiology to Clinical Aspects. The Aging Male, P.p. 1-10.

Carey, J., and Rayburn, W., (2010): Obstetrical and Gynecology 4th Ed, Philadelphia, Lippincott William & Wilkins. P.p.513-519.

Chartier, E., and Tubaro, A., (2006): The Measurement of Nocturia and Its Impact on Quality of Sleep and Quality of Life in LUTS/BPH. European Urology Supplements, 5(1), P.p.3-11.

Chin, W., Choi, P., Wan, Y., Chan, K., Chan, H., and Lam, L., (2017): Evaluation of the Outcomes of Care of Nurse-Led Continence Care Clinics for Chinese Patients with Lower Urinary Tract Symptoms, a 2-Year Prospective Longitudinal Study. Journal of Advanced Nursing, 73(5), P.p. 1158-1171.

El-Gilany, A., Alam, R., and Abdelhamied, S., (2016): Sever Symptoms of Benign Prostatic Hyperplasia: Prevalence Associated Factors and Effects on Quality of Life of Rural Dwelling Elderly. Journal of Nursing and Health Scienc (IORS-JNHS) E-ISSN: 2320-1959.P-ISSN: 2320-1940 Volume 5, Issue 3Ver.VI (May-Jun.2016), P.p.21-27.

Elsenosy, A., (2016): Assessment of Bio Physical –Psycho Social Needs of Prostatic Cancer Clients, Thesis Published Master Degree in Nursing, Science, Ain Shams University,. P.p.49-53.

Erez, G., Selman, L., and Murtagh, F., (2016): Measuring Health Related Quality of Life In Patients With Conservatively Managed Stage 5 Chronic Kidney Disease: Limitation of The Medical Outcomes Study Short Form 36: SF36 .Quality of Life Research, 25(11), P.p.2799-2809.

Haltbakk, J., Hanestad, R., and Hunskaar, S., (2015): How Important Are Mens Lower Urinary Tract Symptoms (LUTS) and Their Impact on the Quality of Life (QOL). Quality of Life Research, 14(7), P.p.1733-1741.

Jung, H., Mccutcheon, K., Reddy, B., Borofsky, M., Narayan, V., Kim, M., and Dahm, P., (2017): 5α-Reductase Inhibitors for Treatment of Benign Prostatic Hyperplasia: A Systematic Review and Meta-Analysis. The Canadian journal of hospital pharmacy, 70(2), P.113.

Kapoor, A., (2012): Benign Prostatic Hyperplasia (BPH) Management in the Primary Care Setting, Can J Urol, 19(Suppl 1), P.p10-17.

Karatas, O., Bayrak, O., Cimentepe, E., and Unal, D., (2010): An Insidious Risk Factor for Cardiovascular Disease: Benign Prostatic Hyperplasia. International Journal of Cardiology, 144(3), P.p. 452.

Mark,E., and Guiseppe,M.,(2016): Quality of Life for Patients with (LUTS).European Urology Supplements,V (5), P.p.991-996.

Ojewola,W., Oridota,S., Balogun, S., Alabi, O., Ajayi, I., Olajide, A., and O, O., (2017): Prevalence of Clinical Benign Prostatic Hyperplasia Amongst Community-Dwelling Men in A South-Western Nigerian Rural Setting: A Cross-Sectional Study. African Journal of Urology, 23(2), P.p. 109-115.

Okada, T., Kono, Y., Matsumoto, K., Sumiyoshi, T., Masuda, N., Shirashi, Y., and Segawa, T., (2015): The Impact of Lower Urinary Tract Symptoms on Generic Health-Related Quality of Life in Male Patients without Co-Morbidity. Nihon HinyokikaGakkaiZasshi. The Japanese Journal of Urology, 106(3), P.p.172-177.

Shaun, W., Esther, M.,Mei, C., and Yin, K., (2017): The Global Burden of Lower Urinary Tract Symptoms Suggestive of Benign Prostatic Hyperplasia: Asystematic Review and Meta-Analysis. Nature Publishing Group. Dio/10.1038/54-1598-017-06628-8.

Siyal, A., Abassi, A., and Shaikh, A., (2015): Symptoms of Benign Prostatic Hyperplasia: Does Prostate Size Matter? Rawal Medical Journal, 40(3), P.p. 286-288.

Speakman, M., Kirby, R., Doyel, S., and Ioannou, C., (2015): Burden Of Male Lower Urinary Tract Symptoms (LUTS) Suggestive of Benign Prostatic Hyperplasia (BPH)–Focus on the UK. BJU International, 115(4), P.p. 508-519.

Nelson, M., and Good, E., (2015): Urinary Tract Infections and Asymptomatic BacteriuriaIn Older Adults. The Nurse Practitioner, 40(8), P.p.43-48.

Qian, X., Liu, H., Xu, D., Huang, F., He, W., and Xu, D., (2017): Functional Outcomes and Complications Following B-TURP versus Holep for the Treatment of Benign Prostatic Hyperplasia: A Review of the Literature and Meta-Analysis. The Aging Male, 20(3), P.p.184-191.

Takahashi, R., Miyazato, M., Nishii, H., Sumino, Y., Takayama, K., Onzuka, M., ... and Eto, M., (2018): Tadalafil Improves Symptoms, Erectile Function and Quality of Life In Patients with Lower Urinary Tract Symptoms Suggestive of Benign Prostatic Hyperplasia (KYUPRO Study). LUTS: Lower Urinary Tract Symptoms, 10(1), P.p. 76-83.

Urology Care Foundation (2014): BPH Surgical Management, At: https://Www.Urology Health.Org

U.S Census Bureau, (2004): Statistics by country for benign prostatic hyperplasia.At https:// www. rightdiagnosis.com

Vuichoud, C., and Loughlin, K., (2015): Benign Prostatic Hyperplasia: Epidemiology, Economics and Evaluation. Can J Urol, 22(Suppl 1), P.p. 1-6.

Xue, P., Wu, Z., Wang, K., Tu, C., and Wang, X. (2016): Incidence and Risk Factors of Postoperative Delirium in Elderly Patients Undergoing Transurethral Resection of Prostate: A Prospective Cohort Study. Neuropsychiatric Disease and Treatment, 12, P.137.