Effect of Educational Guidelines Application on Quality of life among Geriatric Patients having Benign Prostatic Hyperplasia

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Abstract

Background: Benign prostatic hyperplasia is one of the most prevalent disorders in elderly men and non-malignant condition of the prostate, increases morbidity, often resulting in lower urinary tract symptoms, which can have an undesirable influence on a patient's quality of life. **Aim**: to evaluate the effect of educational guidelines application on the quality of life among geriatric patients having benign prostatic hyperplasia. **Design**: A Quasi-experimental research design was utilized to achieve the aim of the study. **Settings**: The study was conducted in Sohag University hospital in urology unit, and outpatient clinics. **Sample**: A convenience sampling of 100 geriatric patients having benign prostatic hyperplasia from the previously mentioned setting. **Tools**: 3 tools were utilized. Tool I: Demographic structured interview schedule: developed by the researchers and includingthe following four parts: Part I: It includes age, occupation, education level, and *residence*, Part II: It includes items to assess the chronic illness, medications used, and their numbers, Part (III) knowledge assessment for client related to benign prostatic hyperplasia, And Part (IV) health needs and health problems of patients, Tool (II): International prostate symptom score. And Tool (III): Quality of Life Scale for benign prostatic hyperplasia. **Results**: Pre-educational guidelines application 80 % of geriatric patients had unsatisfactory total knowledge regarding benign prostatic hyperplasia that improved post-educational guidelines application and 84% of Them had satisfactory total knowledge. The present study revealed that 15% of the studied geriatric patients had high quality of life pre-educational intervention compared to 65% had high levels of quality of life post-educational guidelines application. There was astatistical relation between the international prostate symptoms score of the study group and their quality of life pre and post-educational guidelines application at P =0.000. **Conclusion**: Educational guidelines application has a significant effect on quality of life among geriatric patients having benign prostatic hyperplasia. Lower urinary tract symptoms associated with benign prostatic hyperplasia have a significant negative impact on the quality of life of geriatric patients. **Recommendations**: Provide health education programs about benign prostatic hyperplasia to the geriatric patients to help them follow their management to improve their quality of life.

Keywords: Benign Prostatic Hyperplasia, educational Guidelines Application, Geriatric Patients & Quality of Life

Introduction

As life expectancy has increased, so have the importance of healthcare for the elderly and the importance of wellness concerns affecting the aging population (**Yaryari et al., 2022**). Since the maturing period expands rapidly and therapeutic consumptions are growing, plans are needed to focus efforts on them. As individuals age, they may develop chronic illnesses; one such illness that may manifest in men during their mature years is Benign Prostatic Hyperplasia (BPH) (**Ferlin et al., 2022**).

A benign excess of mostly glandular tissue that can cause uncomfortable urinary disturbances, such as obstructing the flow of urine out of the bladder, is known as benign prostatic hyperplasia. It is unclear what exactly causes benign prostatic hyperplasia, however, risk factors like diet, activity, race, diabetes,

and high blood pressure are known to be involved. In addition to having abnormal histology results or symptoms linked to enlarged prostates, almost 50% of men over 60 who have high blood pressure fall into the 60–70% range (**Kong et al., 2022).**

Blood in the urine, urinary tract infections, and difficulty urinating are less frequent indications of bladder hypertension. According to **De Jonge et al., (2023**), common symptoms and signs of benign prostatic hyperplasia include the need to urinate frequently or urgently, an increase in the frequency of nighttime urination (nocturia), difficulty starting urination, a weak or intermittent urine stream, dribbling at the end of urination, and an inability to empty the bladder.

One common condition that affects men as they age is benign prostatic hyperplasia or BPH. Male senile illness is known to frequently manifest as the lower urinary tract deteriorating. Specifically, BPH, which affects 25% of males globally, makes for about 80% of the illnesses that result in symptoms related to the lower urinary tract. Men in their 40s and 50s are typically affected by BPH, which lowers the health-related quality of life (HRQOL) and causes symptoms related to urination, including tension, inadequate bladder emptying, and pain during the mission process. Furthermore, if left untreated, it may result in renal insufficiency and cystoliths, necessitating ongoing care (**Rohrmann et al., 2022**).

One of the conditions that lowers a patient's subjective health status and HRQOL is benign prostatic hyperplasia (BPH), which limits everyday activities and physically produces urinary tract infections and odors. In terms of physical, mental, socioeconomic, and spiritual dimensions, an individual's subjective well-being state is referred to as their HRQOL. Because of worry and a decline in social function, BPH causes psychological stress in its sufferers, which lowers HRQOL. The HRQOL of BPH patients whose symptoms worsen with age has been demonstrated to be significantly poorer. The HRQOL decreases with increasing severity of BPH symptoms **(Khalaf et al.., 2020)**.

Improving HRQOL can encourage patients with BPH to pursue treatment, as it is a crucial element in their behavior to control their conditions. Additionally, medication and surgery are typically used to treat BPH; however, concurrent improvements in a person's health-related behavior are necessary for treatment outcomes to be beneficial. As a result, patients' self-care may rise as their HRQOL for BPH patients improves. Due to reduced physical activity, poor economic standing, psychological issues, and other factors, older adults have more difficulty accessing health care; in the case of BPH patients who require self-care, their cognitive abilities, ability to acquire new information, and other factors related to disease management all decline with age (**Kosilov et al., 2018**).

As people age, these symptoms occur more frequently. Acute urine retention (AUR), which may ultimately require surgical intervention to treat benign prostatic hyperplasia, is one of the consequences that might arise from disease development and aggravate the accompanying symptoms. One notable factor that may influence a patient's decision to undergo therapy is the impact of this condition and its associated symptoms on their quality of life. Studies have shown that a higher International Prostate Symptom Score (IPSS) is substantially correlated with a lower quality of life (**Ferlin et al., 2021**).

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By placing limitations on lifestyle choices and possibly serving as a physical cause of urinary tract infections, BPH may be a disorder that lowers a person's subjective well-being and health-related quality of life (HRQOL). A person's subjective assessment of their overall health—physical, mental, financial, and spiritual—is referred to as their HRQOL. People with BPH encounter mental push-ins that have a detrimental impact on HRQOL as a result of their discomfort and the disintegration of their social work. As BPH side effects become more severe, the HRQOL declines (**Kong et al., 2022**).

Patients with BPH seek treatment as a result of an improvement in HRQOL. The conventional course of treatment for BPH is medication or surgery; however, concurrent improvements in health-related behavior impact the efficacy of treatment. Consequently, an increase in HRQOL raises patients' self-care (**Palmieri et al., 2023**). Less active seniors, lower socioeconomic levels, or psychiatric issues are some of the variables that make receiving healthcare more difficult for them. Age-related declines in knowledge acquisition and cognitive capacities were observed in BPH patients who require self-care (**Agarwal et al., 2021**).

For the treatment of all forms of BPH, various gerontological nursing treatments work well. Behavioral therapy, progressively increasing the frequency of voiding intervals to two to four hours, and changing one's lifestyle to lose weight are some examples. All interventions aimed at enhancing the tone of the urinary sphincter muscles should be explained by gerontological nurses (**Ferlin et al., 2021).**

Significance of the Study:

About 25% of men globally are likely to have BPH, which is linked to about 80% of disorders causing symptoms connected to the lower urinary tract. BPH contributes to the degradation of health-related quality of life (HRQOL), typically affecting men in their 40s and 50s. Prolonged care is necessary because, if left untreated, enlargement can result in cystitis and renal failure (**Qin et al., 2022)**. Between 13.84% and 23.79% in the Middle East and between 21.8 and 25.6% in Egypt, BPH is a common condition. QOL decline and a higher incidence of co-morbid conditions are linked to BPH. Healthcare systems may be less affected by a better understanding of the illness and how to manage it. Elderly people's physical and mental health are significantly impacted by BPH and the lower urinary tract symptoms (LUTS) it is connected with (**Amir et al., 2022**).

Benign prostatic hyperplasia guidelines now recommend that patients be included in suggestions on choice 9–11 of curative perspective, taking into account the seriousness of patients' concerns and contentment. BPH is notably recognized as an influential factor in precipitating a decline in quality 8 of life and increasing patient anxiety. Despite not being lethal, benign prostatic hyperplasia can nevertheless have a significant impact on a patient's quality of life. Patients with benign prostatic hyperplasia experience a decline in quality of life primarily as a result of sleep disturbances, polyuria at night, social disruptions due to frequent urination, psychological distress, and anxiety about developing more complications, such as urinary tract infections and prostate cancer. Therefore, the purpose of the current study was to evaluate the effect of educational guidelines application on quality of life among geriatric patients having benign prostatic hyperplasia

Aim of the study:

To evaluate the effect of educational guidelines application on quality of life among geriatric patients having benign prostatic hyperplasia

Research Hypotheses:

H1: Patients having benign prostatic hyperplasia are expected to improve patients' knowledge levels post Educational guidelines application intervention than pre-intervention.

H2: Patients having benign prostatic hyperplasia are expected to decrease their health needs and health problems post Educational guidelines application intervention than pre-intervention.

H3: Patients having benign prostatic hyperplasia are expected to improve patient's quality of life levels post Educational guidelines application intervention than pre-intervention.

H4: Patients having benign prostatic hyperplasia are expected to alleviate BPH-related symptoms post Educational guidelines application intervention than pre-intervention.

Subjects and Method:

Research Design
A Quasi-experimental research design was utilized to achieve the aim of the study.

Setting:
This study was conducted at Sohag University Hospital, urology unit and outpatient clinics.

Subjects:

A Purposive sampling of 100 geriatric patients having benign prostatic hyperplasia from the previously mentioned setting.

Study Tools: three tools were utilized.

Tool I: Demographic structured interview schedule: developed by the researchers and included the following four parts: Part I: It included age, occupation, education level, and residence.

Part II: It included items to assess the chronic illness, medications used, and their numbers.

Part (III) Patients Knowledge Assessment Sheet related to benign prostatic hyperplasia: It was developed by the research team after reviewing relevant literature and guided by **De Jonge et al., (2023); Siyal et al., (2022)**), assess the **benign prostatic hyperplasia** knowledge levels of **patients** pre and post sessions. The questions included seven close-ended questions such as definition, risk factors/causes, signs and symptoms, methods of diagnosis, management, complications, and recurrence prevention of BPH. Previous training and source of knowledge **regarding benign prostatic hyperplasia**

Scoring system

It is composed of 7 questions 1 score for every correct answer and zero score for every incorrect answer. Total patient knowledge was classified into the following scale, satisfactory knowledge from 60% and more, while unsatisfactory knowledge is less than 60%.

Part (IV) health needs and health problems among patients having benign prostatic hyperplasia:
Part (V): (A) - Clients' health needs: it was close-ended questions modified by the researcher from ***Elsenosy, (2016)*** and included: (Physiological needs, psychological needs, social needs, and sexual needs).

Scoring system

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

Part (V): (B) - Patients' health problems*:* It included information such as urinary problems, sexual problems, and central nervous system problems. It was close-ended questions.

Scoring system

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

Tool III: International Prostate Symptom Score (IPSS) (Choi et al., 1996):- This instrument is designed to evaluate prostatic hyperplasia-related lower urinary tract symptoms (LUTSs). There are three products for storing symptoms and four items for voiding symptoms, totaling seven items. There were four responses for each question. "Never" receives a score of 0, "1 in 5 times" receives a scoreof 1, "1 in 3 times" receives a score of 2, "1 in 2 times" receives a score of 3, "2 in 3 times" receives ascore of 4, and "nearly always" receives a score of 5.

Scoring:-

- 20 to 35 severe symptoms.
- 8 to 19, moderate symptoms
- 0 to 7 mild symptoms,

Tool III: Quality of Life Scale: A Short

Form for Benign Prostatic Hyperplasia Geriatric Patients (BPH-QLS) (Guo et al., 2009): It could be a brief form of BPH-QLS that is utilized to survey the quality of life among geriatric patients. It consisted of 33 things and 32 held relationshipthings related to voiding and urination. Symptoms include a strong urge to urinate, the feeling that the bladder is not empty after urinating, an aversion to the urge to urinate, spilling and wetting pants shortly after finishing urinating, and a global QOL measure that measures elderly patients' quality of life on a scale from zero to one hundred. Every question had five responses. The following are the scores: 1 for "strongly agree," 2 for "agree," 3 for "neutral," 4 for "disagree," and 5 for "strongly disagree."

Scoring system:

It is a 5- point short form of BPH-QLS with equal interval scoring (1 low, 5 high). Based on patients' perceptions, they were asked to select the relevant after-score summation; the better quality of the patient's life would be achieved if the patient had a higher score. Patients who achieved a score of more than 60% had a high level of quality of life but geriatric patients who scored less than 60% achieved a low level of quality of life.

Data collection phase (Fieldwork)

The researcher began collecting data over six months, from the first of July 2023 to the first of December 2023, after receiving permission to perform the study. The data was collected two days per week (Monday and Wednesday). The assessment was done on all the study samples 100 geriatric patients. Afterward, the researcher introduced herself, described the study's goals, and received the geriatric patient's / to take part in the study voluntarily. Each geriatric patient who participated in the study was interviewed individually in the previously selected setting. The sheet was filled out by the researcher, who asked the geriatric patients and documented their answers, which were filled out and completed in 30 and 40 minutes.

Methods:

The educational guidelines application about benign prostatic hyperplasia was implemented according to the following phases:

Preparatory phase

The tools was developed after reviewing of the current, recent, national, and international related literature covering all aspects of the research subjects using the available textbooks, journals, nursing magazines, and websites to get a clear picture of the research problem.

Tools Validity:- Five specialists from the Gerontological Nursing Department, Faculty of Nursing, and community health nursing examined the instrument's content validity, coverage, clarity, relevance, applicability, wording, length, format, and overall appearance. By their advice, there was no changes were made.

Tool reliability

Alpha Cranach's α coefficient was more than 0.878, indicating the reliability of tool one. Alpha Cranach's α coefficient was more than 0.8, indicating the reliability of IPSS. For outpatients (not surgical patients), the test-retest CC was 0.858 and the Cronbach'α coefficient was 0.952. These results indicate that the BPH-QLS short form was stable and reliable when compared to widely accepted standards; high reliability is defined as a test-retest CC of >0.7 and α >0.8.

Pilot study

The pilot study was conducted to test the simplicity of the language of tools. It was conducted to evaluate the applicability of the study tools used in data collection in addition to the time required to fill each tool. It was carried out on 10% of the patients having benign prostatic hyperplasia which had been included in this study.

Administrative design:

The Executive of the Urological Hospital at Sohag University Hospital was granted formal authority to collect information for the study via the accommodation of official letters provided by the Dean of the Nursing Faculty at Sohag University. The letter explains the

purpose and scope of the investigation and includes consent to do the study.

Ethical considerations:

Approval to conduct this study was obtained from the Research Ethics Committee of the Faculty of Nursing, Sohag University. To obtain official approval to conduct the study, an official letter was issued by the Dean of the Faculty of Nursing at Sohag University to the Director of the previously selected settings. patients having benign prostatic hyperplasia who agreed to participate in the study provided written consent. Voluntary participation of patients having benign prostatic hyperplasia was confirmed. Patients having benign prostatic hyperplasia were informed that they could withdraw from the study at any time without giving any reasons. Confidentiality was established through the use of tokens to ensure anonymity.

II. Planning phase:

Based on the literature relevant to benign prostatic hyperplasia research, researchers gained a comprehensive understanding of all aspects of benign prostatic hyperplasia. The results obtained from the preparatory phase reported to characteristics of the study sample, and the researchers designed the intervention sessions' content. In addition, the researchers designed and illustrated a booklet, and its content was proved and it was distributed to the studied patients to be used as a guide for self-learning. The researchers worked with the principals of the hospital to find a suitable place for the educational intervention, it was the lecture room, dedicated to providing workshops and training. A handout was prepared and distributed to patients by the end of each session of the educational guidelines. The researchers established the benign prostatic hyperplasia educational intervention for the studied subjects according to the following steps:

Educational guidelines objectives setting:

▪ General objective:

The general objective of the educational guidelines application was to improve the quality of life among geriatric patients having benign prostatic hyperplasia

Specific objectives:

After applying the current educational guidelines, the patients should be able to:

- Define benign prostatic hyperplasia.
- List the risk factors of benign prostatic hyperplasia.
- Enumerate the causes of benign prostatic hyperplasia.
- List signs and symptoms of benign prostatic hyperplasia.
- Discuss methods of diagnosis of benign prostatic hyperplasia.
- Identify the management of benign prostatic hyperplasia.
- Enumerate the complications and recurrence prevention of BPH.
- Discuss the physiological needs, psychological needs, social needs, and sexual needs.
- Explain the urinary problems, sexual problems, and central nervous system problems.

III. Implementation phase:

All selected geriatric patients having benign prostatic hyperplasia were subjected to the educational guidelines. The educational guidelines were implemented by the researchers in the selected settings. The geriatric patients have benign prostatic hyperplasia.

Number of sessions: each session has specific objectives and titles based on its content, which varied according to the nurse's comprehension and assimilation of the information, as well as the time available and the content of each session. The same contents were presented to all geriatric patients having benign prostatic hyperplasia, and sessions were conducted using lectures, role models small group discussions, and the brochures/ booklet and were employed throughout the session.

A PowerPoint presentation supported the intervention, followed by a group discussion about the contents. In addition, researchers helped geriatric patients having benign

prostatic hyperplasia gain knowledge of feedback. Also, brochures / booklet with attractive images and simple, clear text were distributed to guide them after the intervention. Each session starts with a summary of what had been given in the previous one and an explanation of the objectives for the current one, using simple language to accommodate the geriatric patients having benign prostatic hyperplasia level of understanding. During the sessions, reinforcement techniques such as praise were used to encourage active participation and increase learning. The sessions were as follows:

▪ First session: During this session, the researchers gave an overview of the educational guidelines, including the goal, the number of sessions, the duration of each session, the location of the meeting, and the schedule. Then, a pre-testing was performed using data collection tools.

▪ Second session: The researchers provided geriatric patients an overview of the definition of benign prostatic hyperplasia, the risk factors of benign prostatic hyperplasia, the causes of benign prostatic hyperplasia., and signs and symptoms of benign prostatic hyperplasia.

Third session: It was initiated by a review of the previous session followed by a discussion about the methods of diagnosis of benign prostatic hyperplasia and the management of benign prostatic hyperplasia.

▪ Fourth session: It is initiated by a review of the previous session, and then followed by group discussions about complications and recurrence; prevention of BPH was also discussed.

▪ Fifth session: It is initiated by a review of the previous session, followed by a discussion about the physiological needs, psychological needs, social needs, and sexual needs.

▪ Sixth session: It started with a review of previous sessions, then great emphasis is made on urinary problems, sexual problems, and central nervous system problems. The researchers summarized all previous sessions, identifying geriatric patients having benign prostatic hyperplasia and comments about the advantages of the educational guidelines application. It also included communication channels between researchers and patients having benign prostatic hyperplasia to answer any questions from the patients and thank them for their participation.

IV. Evaluation phase:

This phase was used to reassess effect of educational guidelines application on quality of life among geriatric patients having benign prostatic hyperplasia using the same pre-test tools post one month of application.

Statistical Analysis:

All statistical analyses were performed using SPSS for Windows version 20.0 (SPSS, Chicago, IL). Continuous data were normally distributed and were expressed in mean ±standard deviation (±SD). Categorical data were expressed in numbers and percentages. The chi-square test (or Fisher's exact test when applicable) was used for comparison of variables with categorical data. Statistical significance was set at p 0.05.

Results:

Table (1): Shows (70%) of them being between the ages of 60 and 69, 60% of them were living in rural areas, In terms of education, it was found that 42% of them had only a basic education. Regarding, occupation 30% of them were workers.

Figure (1): This figure revealed that 90% of the studied geriatric **patients** complained of diabetes followed by 84% of them suffering from hypertension.

Figure (2): Shows that 100% of the studied geriatric **Patients didn't** have previously trained **benign prostatic hyperplasia**

Figure (3): Illustrates that 83% of the studied geriatric **Patients** stated that their source of knowledge regarding **benign prostatic hyperplasia was doctors.**

Table (2) reveals that there were statistically significant differences and improvements in all items of **benign prostatic hyperplasia** among geriatric patients pre and post-one-month educational guidelines implementation ($P < 0.05$).

Most (95%) of the studied geriatric patients had an unsatisfactory total knowledge level regarding **benign prostatic hyperplasia** in the educational guidelines implementation, while 90 % of them had total satisfactory total knowledge level after educational guidelines implementation **as shown in (Figure, 3).**

Figure (4): illustrates that there was an improvement in achieving needs among geriatric patients having benign prostatic with pre-educational guidelines application 70% of patients **having** benign prostatic hyperplasia did not achieve their needs compared to 65% of those were achieved their needs post-educational guidelines application.

Table (3): shows that there was a highly statistically significant difference and improvement regarding health problems among patients having benign prostatic **hyperplasia** pre and post-educational guidelines application **at p-value** <0.001*

Figure (5): illustrates that there was an improvement regarding the International Prostate Symptom Score among geriatric patients having benign prostatic hyperplasia pre and post-educational guidelines application, where 19% had severe level Prostate Symptom pre-**educational guidelines application** which decreased to 5% post-**educational guidelines application.**

Table (4) illustrates that there was a highly statistically significant difference and improvement regarding total quality of life dimensions mean scores among geriatric patients having benign prostatic hyperplasia pre and post-educational guidelines application at p-value <0.001*

Figure (6): illustrates that there was an improvement regarding total quality of life level among geriatric patients having benign prostatic hyperplasia pre and post-educational guidelines application where 15% had high total quality of life level pre-**educational guidelines application** which increased to 65% post-**educational guidelines application.**

Table (1): Demographic characteristics of geriatric patients having benign prostatic hyperplasia (n=100)

Demographic characteristics	No	%
Age group		
60- 69 years	70	70.0
>70 years	30	30.0
Mean ± SD	68.61±7.21	
Residence		
Urban	40	40.0
Rural	60	60.0
Education		
Illiterate	18	18.0
Read and write	24	34.0
Basic education	42	42.0
University education	6	6.0
Occupation		
Farmer	24	24.0
Worker	30	30.0
Technician	23	23.0
Retired	21	21.0
Other	2	2.0

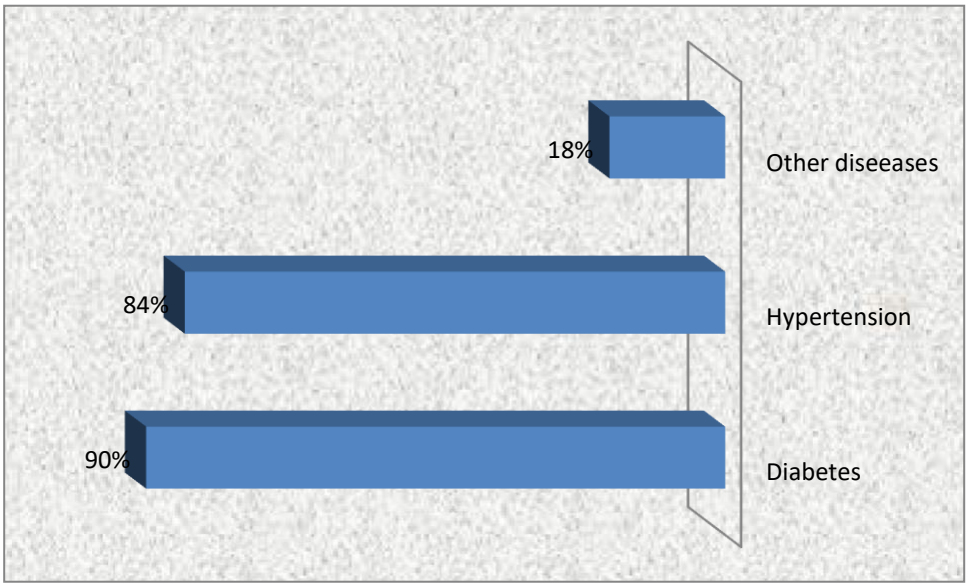

Figure (1): Chronic disease distribution among the studied geriatric patients

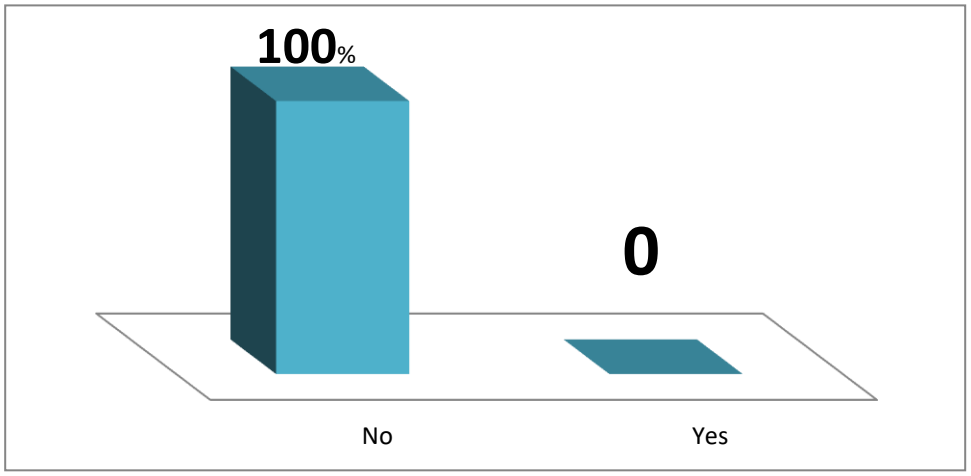

Figure (2): Patient distribution regarding having previously trained about benign prostatic hyperplasia (n=100).

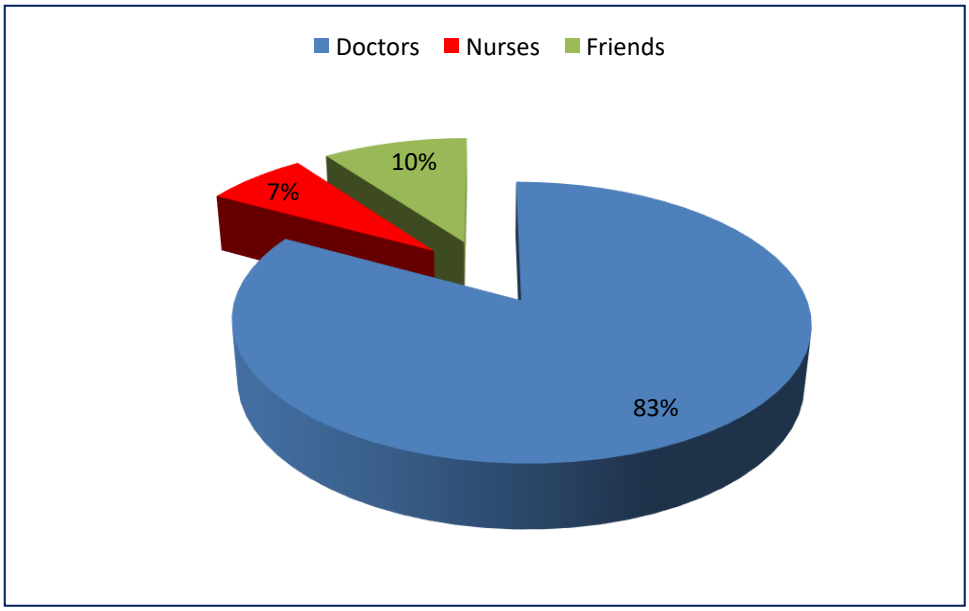

Figure (3): Geriatric patient's distribution regarding source of knowledge regarding benign prostatic hyperplasia (n=100).

Table (2): Geriatric patients' knowledge distribution regarding benign prostatic hyperplasia pre andpost-educational guidelines application (n=100).

Correct knowledge regarding benign prostatic hyperplasia	Pre		Post		X2 test	p-value
	No.	%	No.	%		
Definition of benign prostatic hyperplasia	14	14.0	92	92.0	77.87	<0.001*
risk factors **of benign prostatic hyperplasia**	16	16.0	84	84.0	44.93	<0.001*
causes **of benign prostatic hyperplasia**	30	30.0	94	94.0	54.83	<0.001*
signs and symptoms **of benign prostatic hyperplasia**	22	22.0	84	84.0	56.46	<0.001*
methods of diagnosis **of benign prostatic hyperplasia**	28	28.0	86	86.0	89.37	<0.001*
management **of benign prostatic hyperplasia**	10	10.0	90	90.0	59.64	<0.001*
complications and recurrence **of benign prostatic hyperplasia**	24	24.0	96	96.0	73.70	<0.001*
prevention **of benign prostatic hyperplasia**	12	12.0	88	88.0	59.05	<0.001*

(*) Statistically significant at p<0.05

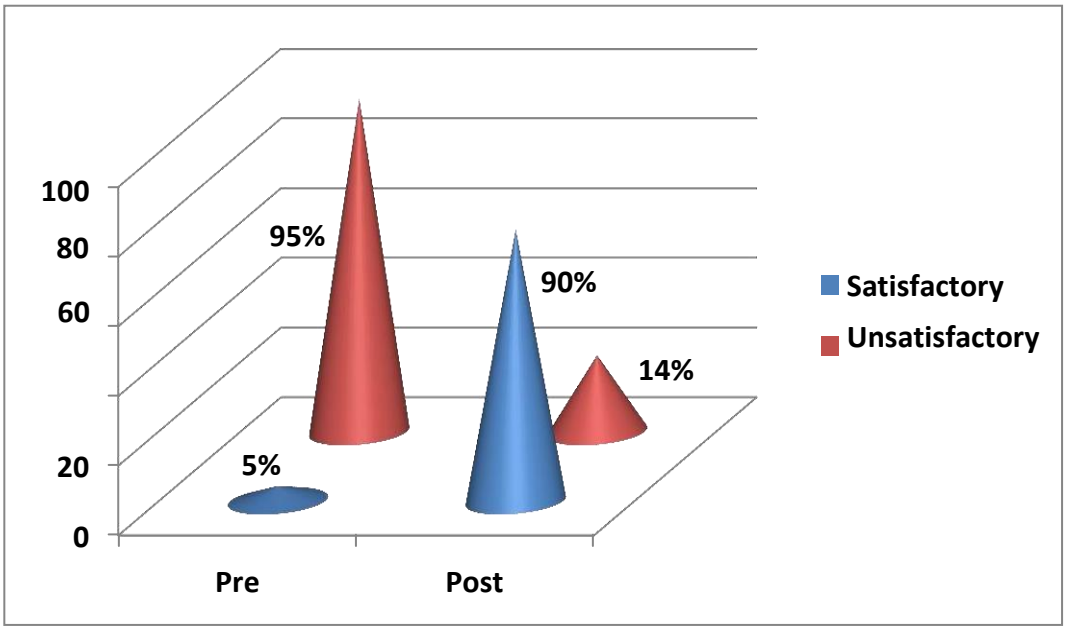

Figure (3): Total knowledge scores of the studied geriatric **patients regarding benign prostatic hyperplasia pre andpost-educational guidelines application (n=100).**

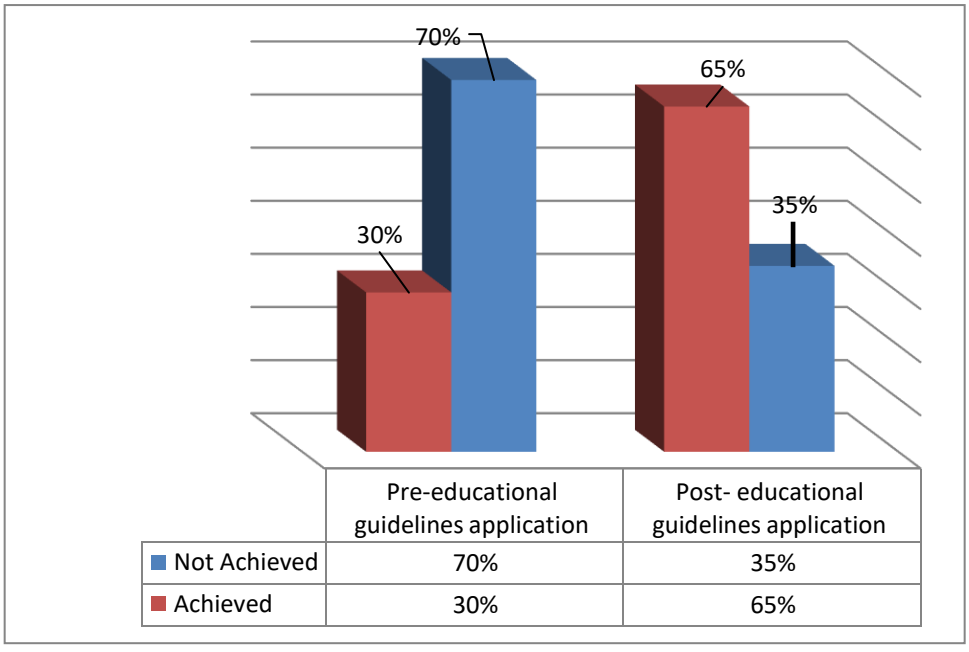

Figure (4): Total needs distribution among geriatric **patients having benign prostatic hyperplasia pre andpost-educational guidelines application (n=100).**

Table (3): Presence of health problems among geriatric **patients having benign prostatic hyperplasia pre andpost-educational guidelines application (n=100).**

Presence of health problems	Pre	Post	X2 test	p-value
Urinary problems*				
Urinary retention	87.0	40.0	77.22	<0.001*
Dysuria	100.0	53.0	52.44	<0.001*
Oliguria	100.0	55.0	54.33	<0.001*
Burning urination	100.0	58.0	56.46	<0.001*
Nocturia	100.0	48.0	89.27	<0.001*
Hematuria	30.0	18.0	59.15	<0.001*
Pus in urine	38.0	20.0	89.54	<0.001*
Urinary incontinence	90.0	30.0	59.22	<0.001*
Sexual problems*				
Loss of libido	89.0	42.0	56.22	<0.001*
Erection dysfunction	87.0	39.0	89.35	<0.001*
Can't keep an erection during sexual relation	86.0	43.0	59.21	<0.001*
Pain during sexual relation	78.0	35.0	89.42	<0.001*
Burning sensation during ejaculation	79.0	50.0	59.31	<0.001*
Speed ejaculation	76.0	59.0	59.72	<0.001*
Central nervous system problems*				
Sleeping disturbance	100	65.0	80.54	<0.001*
Loss of concentration	82.9	58.0	57.23	<0.001*
Anxiety	63.0	46.0	83.45	<0.001*
Vision difficulties	48.0	25.0	52.78	<0.001*
Hearing difficulties	58.0		44.22	<0.001*

*Answers Are Not Mutually Exclusive

*statistically significant at P<0.00 significant: HS

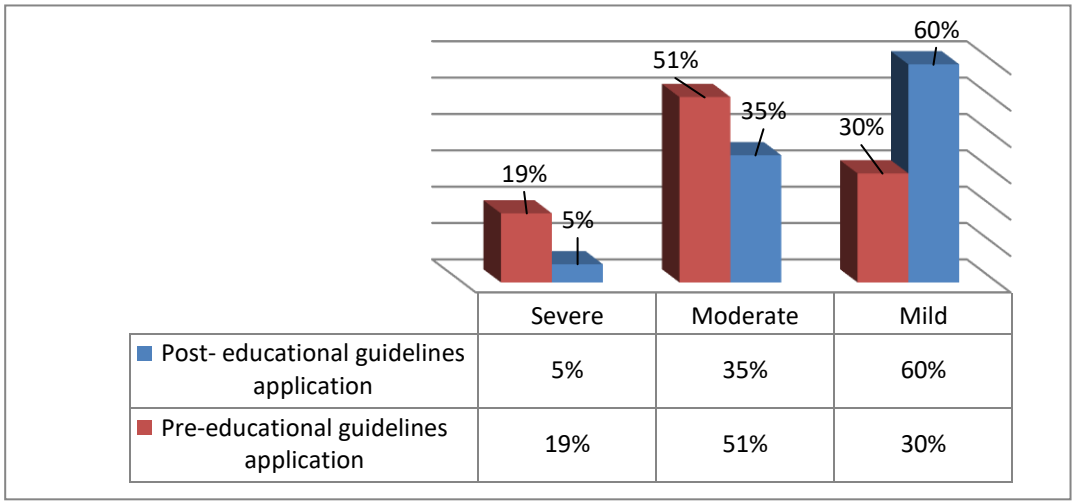

Figure (5): Total International Prostate Symptom Score distribution among geriatric patients having benign prostatic hyperplasia pre andpost-educational guidelines application (n=100).

Table (4): Differences in mean score for the QOL domains among geriatric patients having benign prostatic hyperplasia pre andpost-educational guidelines application (n=100).

QOL Domain	Pre	Post	t-test	P
Physical	34.67 ± 15.12	64.22 ± 14.22	12.67	0.001
Social	46.33 ± 10.82	76.11 ± 10.56	10.65	0.001
Psychological	37.44 ± 7.14	57.33 ± 7.23	9.56	0.000
Satisfaction	47.45 ± 17.56	67.44 ± 17.43	11.54	0.000

t= independent t-test; ns no statistical significant difference (p > 0.05);**A high statistical significant difference (P ≤ 0.001)

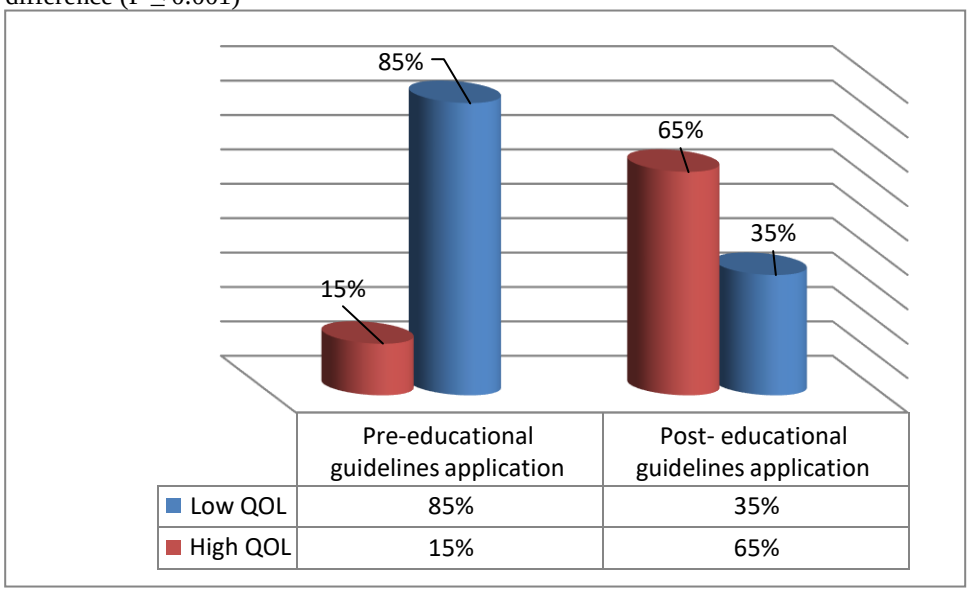

Figure (6): Total quality of life levels distribution among geriatric patients having benign prostatic hyperplasia pre andpost-educational guidelines application (n=100).

Discussion:

Older men with BPH frequently experience as a result of their condition. **Geriatric** patients' quality of life (QOL) may be significantly harmed by LUTS. Examining the quality of life and symptoms associated with BPH in older men with geriatric BPH—a common disorder that frequently leads to LUTS—was the goal of this study. Senior patients' quality of life (QOL) may be significantly harmed by LUTS (**Jain et al., 2020**). So, the study was aimed to evaluate the effect of educational guidelines application on quality of life among geriatric patients having benign prostatic hyperplasia.

Of the patient population, fewer than 75% fell within the 60 and 69 age range. According to **Ferlin et al., (2022),** 69.8% of the elderly participants in the study were between the ages of 60 and 69, with a mean age of 69± 5.6. This is consistent with the findings of the studies. These findings conflict with those of **Ojewola et al., (2017**), who evaluated the prevalence of symptomatic benign prostatic hyperplasia in men living in communities in a rural area of southwest Nigeria. The study conducted in Nigeria revealed that the mean age of the study group was 64.3±12.6) years. Furthermore, tadalafil improves symptoms, erectile function, and quality of life in patients with lower urinary tract symptoms suggestive of benign causes; **Takahashi et al., (2018**) found otherwise, According to a study conducted in Fukuoka, Japan, the mean age of the study group was 67.3 ±1.4, and more than two thirds (71.4%) were over 65. The discrepancy could be attributed to a lack of knowledge in the community regarding the risk factors for benign prostatic hyperplasia, which could have led to the disease developing earlier in life.

Regarding where the elderly patients resided, it was discovered that over three-quarters of the sample under study did so in rural locations. This might be the result of the elderly ignoring their health since they live in rural locations and find it difficult to get to the hospital, while the rest of them reside in urban areas. This is consistent with **Dutta et al.,'s (2021**) finding that two-thirds of the elderly individuals under study were residents of rural areas.

The results of the current study revealed that more than two-fifths of the patients only had a basic education, which may indicate that those with less education have lower knowledge and less treatment-seeking behavior. This is in line with **Torres et al.'s (2021**) findings, which showed that elderly people without formal education had a 17.8% greater prevalence of benign prostatic hyperplasia than those with a university education. Furthermore, the present study aligns with the findings of **Baskaran et al., 2021,** which indicated that senior participants with less educational attainment or those who could only read and write were more likely to get BPH. **Abraham et al., (2016**) concluded that 5% of the study sample illiterate; however, these results conflict with their findings, which show that 5% of the sample had a high level of education and that more than 25% could read and write. The impact of educational attainment on clients' knowledge and behaviors was not written down by more than one-third of the study group.

Regarding occupation, the current study found that a significant portion of the patients under investigation did not have a job. This finding contradicts that of **EL-Gilany et al., (2016**), who discovered that in their study sample, over 25% were unemployed and less than 25% were workers. This conclusion is consistent with the findings of **Abraham et al., (2016**), who discovered that over half of the study sample's clients were employed, and the majority of them needed long-term employment. Working for extended periods may exacerbate existing symptoms and exacerbate the effects of the condition.

About the chronic illnesses that the elderly patients had, it was shown that the great majority of the elderly patients under study had diabetes and hypertension. This could be the case because as people age, changes related to aging render them more vulnerable to

chronic illnesses. **Esteves et al., (2021**) discovered that among the sample under study, diabetes mellitus was the most prevalent chronic condition, with hypertension following closely behind.

According to the current findings, following the implementation of educational guidelines, the majority of the elderly patients in the study exhibited a good level of overall knowledge regarding benign prostatic hyperplasia, whereas, before this, their knowledge was largely inadequate. This finding contradicts that of **Abraham et al., (2016**), who discovered in their large study that roughly 10% had inadequate knowledge, roughly 2/3 had average knowledge, and over 25% had high knowledge. This outcome is also consistent with comprehensive research conducted over 31 prevalence rate estimations across 25 countries by **Shaun et al., (2019**), who found that there are substantial knowledge gaps that present potential for further study. The reasons behind this could be attributed to cultural differences, aging, and socioeconomic status, which hinder individuals from acquiring knowledge. Additionally, over 50% of the study population now under investigation lives in rural areas with low educational attainment, which may further hinder their capacity to become sufficiently aware of diseases.

The current study's results showed that, after applying educational guidelines, senior individuals with benign prostatic conditions were better able to achieve their needs about their overall demands. From the perspective of the researchers, it verified the beneficial impact of educational guidelines' implementation, which satisfied the requirements of the elderly patients with benign prostatic after-effects of educational guidelines' application. According to **Okada et al., (2021)** assessment of the effects of lower urinary tract symptoms on generic health-related quality of life in male patients without co-morbidity in Japan, BPH negatively affects the HRQOL domains of physical functioning, role physical, bodily pain, general health perception, vitality, mental health, and sexual and social functioning.

The current study found a highly statistically significant difference and improvement in the health problems of patients with benign prostatic hyperplasia both before and after the application of educational guidelines. This finding contrasts with that of **Siyal et al., (2022**), who found that polyuria, hesitancy, nocturia, hematuria, urgency, retention, incontinence, and burning micturition were present in 22.9%, 4%, 1.5%, 3.5%, 5%, 2%, 12.4%, and 6.5% of the study sample, respectively. According to the researchers, this demonstrated that the educational guidelines were successfully implemented to meet the needs of the elderly individuals under study who had benign prostatic after applying the instructions.

When it came to sexual issues, the current study found that the majority of the customers under investigation—more than three quarters and more than two-thirds, respectively—had erectile dysfunction, loss of libido, and rapid ejaculation**, Kapoor, (2022)** provided support for this study by reporting that drugs for benign prostatic hyperplasia can lead to problems with erection, ejaculation, and sexual function. This finding aligns with the findings of **Asare et al. (2019)**, who reported that 97% of the study sample experienced erectile dysfunction and decreased sexual desire. 8% of the study sample, according to **Vuichoud et al., (2019**), assessed benign prostatic hyperplasia: epidemiology, economics, and evaluation in Boston, USA, had erectile dysfunction. Both urinary system issues and drug side effects could be to blame for this outcome.

The current study contradicts the findings of **Chartier and Tubaro, (2020**), who discovered that 25% of the study sample experienced sleep disruptions, by demonstrating that every client under investigation experienced central nervous system issues. This finding is consistent with **Karatas et al. (2020),** who evaluated benign prostatic hyperplasia as a sneaky risk factor for cardiovascular disease in Ankara, Turkey, and reported that the condition causes sleep disruptions brought on by nocturia. According

to **Chartier and Tubaro's, (2020**) findings, BPH can lead to mood swings and a loss of focus. The current investigation demonstrated that most of the clients had difficulty concentrating.

The results of the current study indicated that less than two-thirds of the study's participants experienced anxiety. It could be associated with anxiety about either acquiring prostate cancer or undergoing surgery. Less than half of the study sample had vision and hearing problems, according to the current investigation. This finding differs from that of **EL-Gilany et al., (2019**), who discovered that 10.9% of the study sample had vision problems. This outcome could be attributed to the clients' aging and physiological changes (less than half of them were 60 years of age or older) or it could be related to adverse drug reactions. In addition to lowering quality of life, BPH and sleep disturbances can have more serious repercussions. Excessive exhaustion and loss of attention brought on by sleep deprivation are thought to be a significant contributing factor in workplace and traffic accidents. Additionally, there are hints that sleep deprivation may raise the risk of morbidity (such as diabetes, heart disease, and depression) and possibly even fatality.

As a result of applying instructional instructions, elderly patients with benign prostatic hyperplasia showed improvements in their International Prostate Symptom Score, according to the study's findings. This is consistent with the findings of **Jain et al. (2020**), who discovered that there was a statistically significant variation within the dataset.

The current study's results demonstrated a highly statistically significant difference and improvement in the mean scores for all quality of life dimensions among older patients with benign prostatic hyperplasia, both before and after the implementation of educational instructions. According to the researchers, this demonstrated that the application of educational guidelines had been successful in helping geriatric patients with benign prostatic cancer reach their goal of having their overall quality of life dimensions mean scores and levels improved. This is consistent with the findings of **Ferlin et al. (2022),** who stated that disease was the most affected domain. Due to QOL among elderly patients, it was found that 84.0 percent of the study's participants had bad quality of life. This could be because the great majority of the research sample had a chronic illness that lowered their quality of life. This is in line with **Jain et al.'s (2020)** finding that low QOL was experienced by more than 75% of the study participants.

The current results, which were similar to those published by **Wagner et al., (2023**) who found that the study's global prostate symptoms were 55.7%, demonstrated an improvement regarding total IPSS among elderly patients with benign prostatic hyperplasia both before and after educational guidelines were applied.

The results of the present investigation showed that the use of educational guidelines improved the overall quality of life of geriatric patients with benign prostatic hyperplasia both before and after. This conclusion was supported by **Mark and Guiseppe's (2019**) findings, which showed that 98.3% of the sample had a quality of life impact. This finding is at odds with the results of **Abraham et al., (2016**), who found that around two-thirds of the study population had a good quality of life and approximately two fifth had a terrible quality of life. A lower quality of life was reported by about two-thirds of the study population, according to **Ojewola et al., (2017**). This result aligns with their research findings.

Conclusion:

Based on the study results, it was concluded that the Educational guidelines application has a significant effect on quality of life among geriatric patients having benign prostatic hyperplasia. Lower urinary tract symptoms associated with benign prostatic hyperplasia which has a significant negative impact on the quality of life of geriatric patients. There were highly statistically significant differences and improvements among geriatric patients 'knowledge, health

needs, health problems, and quality of life-related benign prostatic hyperplasia post-educational guidelines application.

Recommendations:

Based on the findings of the current study, the researchers suggested the following recommendations

- Establishing health education programs about benign prostatic hyperplasia to the geriatric patient to help them follow their management.
- A brief overview of benign prostatic hyperplasia condition in Arabic pamphlet and brochure must be available at outpatient clinics.
- Screening for all geriatric people for early BPH detection
- Future research should be replicated on quality of life and benign prostatic hyperplasia in large number of geriatric patients

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