

Quality of Life and Benign Prostatic Hyperplasia-Related Symptoms among Geriatric Patients

Hoda Hanafy Shaker¹, Dina ELdin Abdel Hameed², Hanaa Shafik Ibrahim³ & Nermeen Mahmoud Abd Al-aziz⁴

¹ Assistant Lecturer, Gerontological Nursing College of Nursing, Assiut University, Egypt.

² Professor of urology, College of Medicine, Assiut University, Egypt.

³ Professor of Gerontological Nursing, College of Nursing, Alexandria University, Egypt.

⁴ Professor of Gerontological Nursing, College of Nursing, Assiut University, Egypt.

Abstract

Background: Benign prostatic hyperplasia is a non-malignant condition of the prostate, increases morbidity, and declining quality of life among geriatric patients. **Study aim:** to assess quality of life and benign prostatic hyperplasia-related symptoms among geriatric patients. **Design:** A descriptive cross-sectional research design was used. **Settings:** Assiut University, urology hospital, out-patient clinics. **Sample:** EPI information was utilized to assess the sample size [140 geriatric patients] with a 95% confidence interval and a margin of error of 5%. **Study tools:** 3 tools were utilized. **Tool (I):** socio-demographic structured interview schedule, **Tool (II):** International prostate symptom score. **Tool (III):** Quality of Life Scale for benign prostatic hyperplasia. **The results:** The present study revealed that 84.0% of the studied geriatrics had low levels of quality of life. There was a statistically significant difference between the age group of the studied sample and their quality of life $P = 0.006$, and there was a statistical relation between the international prostate symptoms score of the study group and their quality of life $P = 0.000$. **Conclusion:** Age negatively affects on benign prostatic hyperplasia related symptoms and quality of life among geriatrics. The highest symptom severity was observed in patients aged more than 70 years. 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 patient to help them following their disease.

Keywords: Assessment, Benign Prostatic Hyperplasia (BPH), Geriatric Patients & Quality of Life (QOL)

Introduction

As the normal life span (life expectancy) has expanded the significance of healthcare for the geriatric, as well as wellbeing issues influencing the maturing populace are being emphasized (Yaryari et al. 2022). Since therapeutic consumptions are expanding as the maturing era grows quickly, arrangements are required to concentrate endeavors for them. With age, patients are progressively creating persistent maladies; Benign Prostatic Hyperplasia (BPH) could be an agent malady that shows up in males during the maturing handle (Ferlin et al., 2022).

BPH is caused by a benign excess of mainly glandular tissue that can cause awkward urinary disturbance, such as blocking the stream of urine out of the bladder. BPH causes not to be clarified, but risk factors, as exercises, nutrition, race, diabetes and hypertension, are accepted to play a part. Men over 60 who have high blood pressure range from 60 to 70 percent, and over 50 percent of those men also have unusual histological results or symptoms associated with enlarged prostates. (Wagner et al., 2023).

Urinary tract infections, inability to urinate, and blood in the urine are less common signs and symptoms of

BPH. Common signs and symptoms include frequent or urgent need to urinate, increased frequency of nighttime urination (nocturia), difficulty starting urination, weak urine stream or a stream that stops and starts, dribbling at the end of urination, and inability to completely empty the bladder (De Jonge, et al., 2023).

Approximately 80% of diseases causing symptoms related to the lower urinary tract are BPH-related, and 25% of men worldwide are likely to have it. BPH, which as a rule happens in men in their 40s and 50s, acts as a factor in corrupting the health related quality of life (HRQOL). In expansion, unless treated, it may cause cystitis and renal insufficiency; in this manner, persistent care is essential (Qin et al., 2022).

BPH may be a condition that impairs a person's subjective well-being and health-related quality of life (HRQOL) by imposing restrictions on lifestyle and potentially acting as a physical cause of urinary tract illness. HRQOL refers to an individual's subjective perception of their physical, mental, financial, and spiritual well-being. Because of their unease and the breakdown of their social work, individuals with BPH experience mental push-ins that negatively affect

HRQOL. The HRQOL decreases with increasing severity of BPH side effects (Kong et al., 2022).

HRQOL improvement induces the treatment seeking behavior of BPH patients. Also, BPH is usually treated medically or surgically; however, simultaneously health behavior improvement affects treatment results. Therefore, HRQOL improvement increases patients' self-care. (Palmieri et al., 2023). Several factors cause the elderly to experience difficulties in health care such as decreased physical activity, low economic status and psychological problems. In BPH patients who need self-care, the knowledge acquisition and cognitive abilities decreased as they ages (Agarwal et al., 2021).

Different gerontological nursing interventions are effective for treatment of all BPH disease. These include lifestyle modification such as weight loss, adoption gradually expanding voiding schedule with the goal of 2 to 4 hours between toileting, and behavioral therapies. Gerontological nurses should explain each measure that helps improve the urinary sphincter muscles tone (Ferlin et al., 2021).

Significance of the Study:

In the Middle East, BPH is quite prevalent, with rates ranging from 13.84% to 23.79% and from 21.8 to 25.6% in Egypt. BPH is associated with a negative impact on QOL and a rate of co-morbid diseases. Better understanding of the disease and its management can reduce the impact on healthcare systems. BPH and its associated lower urinary tract symptoms (LUTS) seriously affect both the physical and mental health of the elderly. (Amr et al., 2022). The present study was proposed to assess the symptoms related to BPH and QOL among geriatric.

Steady aim

General objectives

Assess the symptoms related to BPH and QOL among geriatric patients

Specific objectives:

1. To assess QOL domains (disease, physical health, psychological status, social relationship and satisfaction) among BPH geriatric patients.
2. To assess BPH-related symptoms among geriatric patients

Study question:

Does BPH affect the symptoms related to BPH and QOL among geriatric patients?

Subjects and Method:

Technical design:

- It includes a research design description, setting, and data collect

Research Design

Descriptive cross- sectional research design.

Setting:

This study was conducted in Assiut University Urology Hospital and outpatient clinics [BPH clinic and general urology clinic). This hospital, which consists of ten floors, is connected to the main Assiut University Hospital. The ground floor houses a number of urology outpatient clinics and an X-ray unit. The remaining floors, which run from third to sixth, are inpatient suites for both male and female patients, and the eighth and ninth floors house a urology unit. The hospital serves a larger influx of seniors and offers a variety of healthcare services to geriatric patients.

Subjects:

Sample: Purposive sample.

Sample size: There were about 220 elderly individuals who visited the BPH clinic annually. Using the program EP/Info, version 3, the study's sample size was assessed to be 140 geriatric patients with a 95% confidence interval (CI) and a 5% margin of error [10 geriatric patients].

Equation:

$$n = [DEFF * Np(1 - p)] / [d^2 / Z^2 - a / 2 * (N - 1) + p * (1 - p)]$$

Inclusion criteria:

- Elderly aged >60 years.
- Communication ability.

Exclusion criteria:

- Not affected by mental conditions or other urological conditions like tumors and stones.

Data collection tools: Three tools were used

Tool I: Demographic structured interview schedule: developed by the researchers and including the following two parts:

Part I: It includes age, occupation, marital status, residence, education level, and sponsoring status.

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

Tool II: 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 relationship things related to voiding and urination. Symptoms include a strong urge to urinate, the feeling that the bladder is not completely 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. Patient achieved score more than 60% had high level of quality of life but geriatric patients who score less than 60% achieved low level of quality of life.

Scale reliability

For outpatients (not surgical patients), the test-retest CC was 0.858 and the Cronbach's 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 $\alpha >0.8$.

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 score of 1, "1 in 3 times" receives a score of 2, "1 in 2 times" receives a score of 3, "2 in 3 times" receives a score 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,

IPSS reliability

Alpha Cranach's α coefficient was more than 0.8, indicating the reliability of IPSS.

Tools Validity:- Five specialists from the Gerontological Nursing Department, Faculty of Nursing, and Faculty of Medicine Assiut University examined the instrument's content validity. In accordance with their advice, the necessary changes were made.

Methods**Operational design****Preparatory phase:**

The literature from both the past and present that addressed different facets of BPH in elderly individuals was thoroughly reviewed by the researchers. The available textbooks and papers from scientific journals and magazines were used for this. Based on this review, a panel of academics with expertise in nursing and medicine created the instruments in their draught versions and evaluated them for face and content validity.

Pilot study:

Prior to beginning data collecting on 15of elderly patients who were excluded from the research, a pilot

study was conducted. To calculate the time required for data collecting and to assess the research instruments' suitability, clarity, and application. Based on the pilot's results, no changes were required.

Data collection phase (Field work)

The researcher began collecting data over the duration of six months, from mid August 2022 to mid February 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 sample 140 geriatric patients. Afterward, the researcher introduced herself, described the study's goals, and received the geriatric patient's verbal consent to take part in the study on a voluntary basis. Each geriatric patient who participated in the study was interviewed individually in the BPH clinic. The sheet was filled out by the researcher, who asked the geriatric patients and documented their answers, which were filled out and completed in 35 and 45 minutes. Three to four interviews were conducted daily according to the clinic timetable. The researcher was available in the BPH clinic to answer any questions and for further explanations.

Administrative design:

The Executive of the Urological Hospital at Assiut 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 Assiut University. The letter explains the purpose and scope of the investigation and includes consent to do the study.

Ethical considerations:

The inquiry was supported by the nursing workforce's moral committee. During the course of the inquiry, there was no opportunity for the subjects to reflect. The idea was based on the moral principles that clinical research upholds. Namelessness and confidentiality were assured. With their verbal consent, the analyst invites the elderly to participate in the study. Members were free to decline to participate and/or withdraw from consideration at any moment, using any kind of justification.

Statistical design:

The acquired data were examined, coded, tabulated, and ready for computer entry. Using the computer program SPSS version 22, descriptive statistics (percentage, mean, and standard deviation) were performed. P-value <0.05 is the chi-square test used for the analysis of variance.

Results:

Table (1): Socio-demographic characteristics among the geriatric patients

Socio-demographic variables	No	%
Age group		
• 60- 69 years	92	65.7
• >70 years	48	34.3
Mean ± SD	68.61±7.21	
Residence		
• Urban	60	42.9
• Rural	80	57.1
Marital status		
• Married	114	81.4
• Unmarried	26	18.6
Education		
• Illiterate	24	17.1
• Reade and write	44	31.4
• Basic education	56	40.0
• University education	16	11.5
Occupation		
• Farmer	32	22.7
• Worker	40	28.8
• Technician	32	22.7
• Retired	28	20.0
• Other	8	5.8
Person living with		
• Wife	56	40.0
• Son/daughter	16	11.5
• Alone	44	31.4
• Other	24	17.1

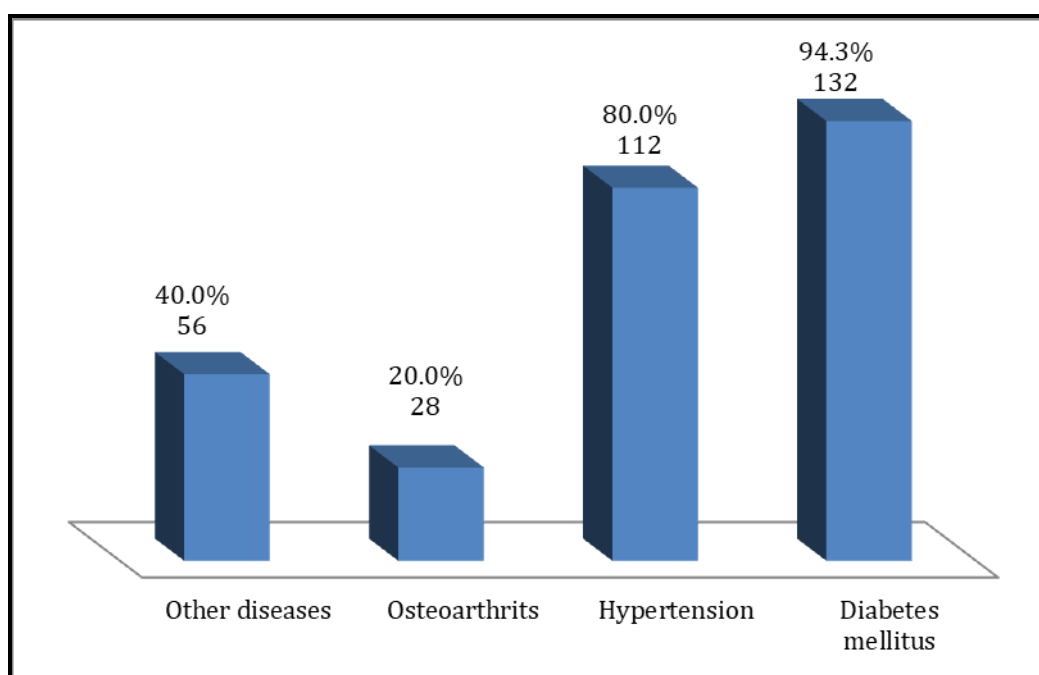


Figure (1): Chronic diseases among the geriatric patients

Table (2): The mean score for the QOL domains among geriatric patients

QOL Domain	Mean ± SD	P
Disease	49.10 ± 15.93	0.0001
Physical	33.56 ± 15.08	0.001
Social	45.41 ± 10.72	0.001
Psychological	36.23 ± 8.02	0.000
Satisfaction	46.34 ± 17.67	0.000

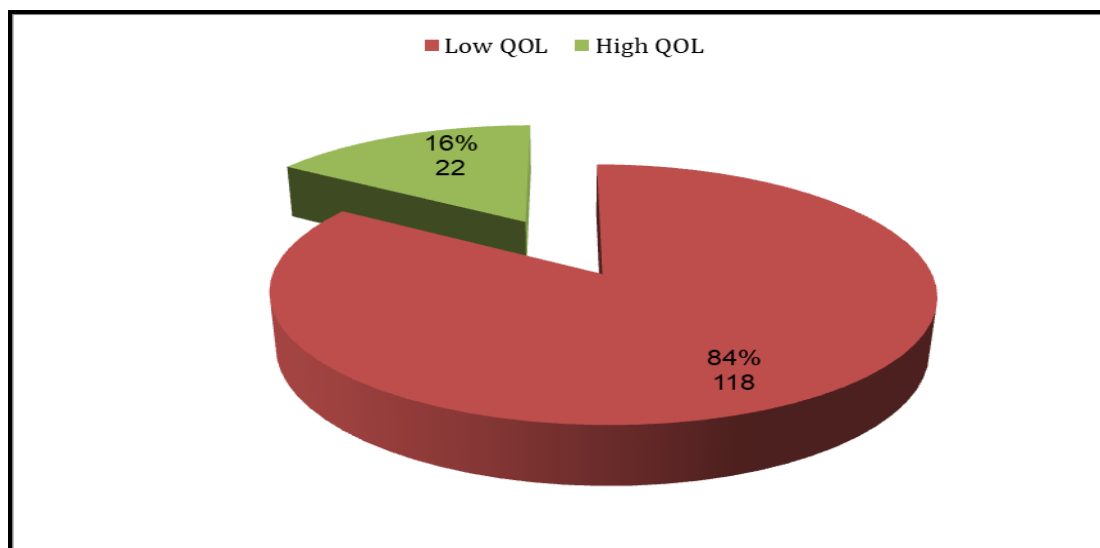


Figure (2): The health status of geriatric patients in Urology Hospital 2023

Table (3): IPSS of the geriatric patients at urology hospital 2023

IPSS	No.	%
Mild	51	36.4
Moderate	78	55.7
Severe	11	7.9

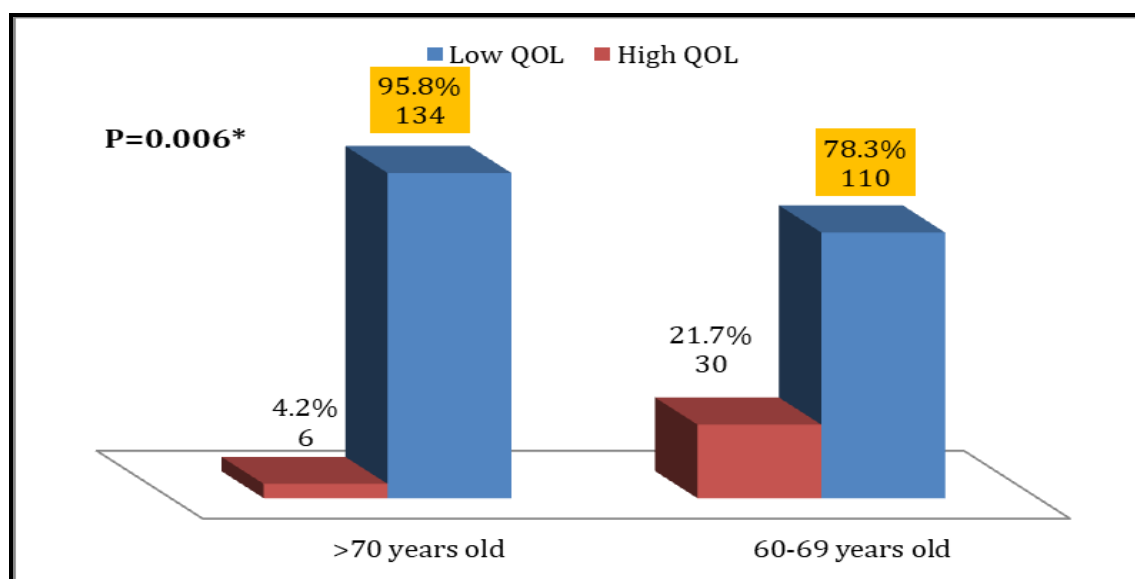


Figure (3): Relation between age group of the geriatric patients and their QOL

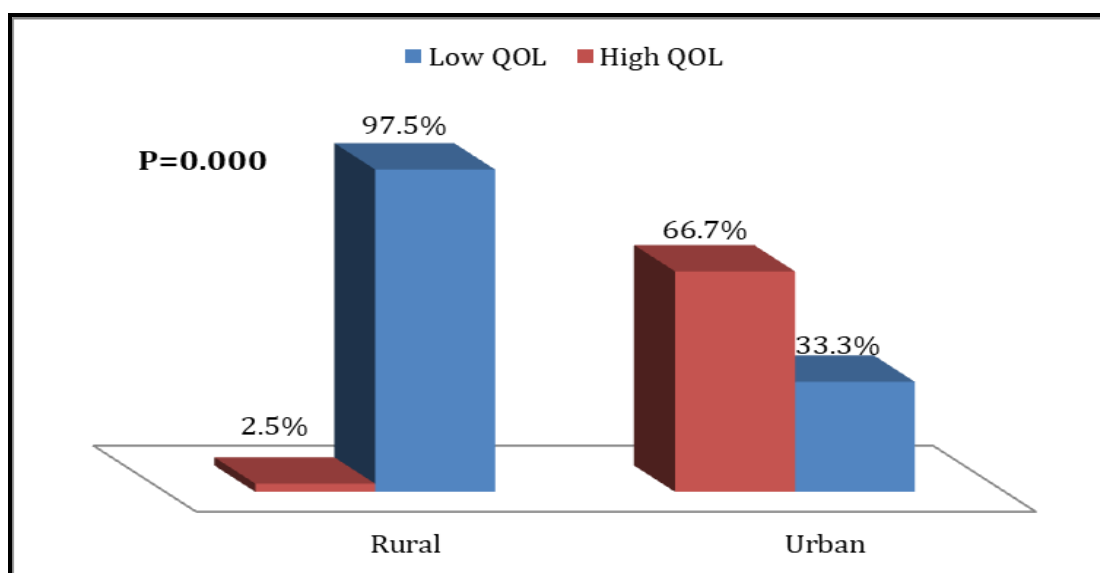


Figure (4): Relation between residence of the geriatric patients and their QOL

Table (4): Relation between socio-demographic characteristics of the study group and their QOL level

Socio-demographic variables	QOL level				P. Value
	Low QOL (n=118)		High QOL (n=22)		
	No	%	No	%	
Age group					
• 60- 69 years	72	78.3	20	21.7	0.006*
• >70 years	46	95.8	2	4.2	
Marital status					
• Married	102	89.5	12	10.5	0.001
• Unmarried	16	61.5	10	38.5	
Residence					
• Urban	40	66.7	20	33.3	0.000*
• Rural	78	97.5	2	2.5	
Education					
• Illiterate	22	91.7	2	8.3	0.000*
• Reade and write	41	93.2	3	6.8	
• Basic education	54	96.4	2	3.6	
• University education	1	6.3	15	93.7	
Occupation					
• Farmer	31	96.9	1	3.1	0.006*
• Worker	30	75.0	10	25.0	
• Technician	31	96.9	1	3.1	
• Retired	20	71.4	8	28.6	
• Other	6	75.0	2	25.0	

Table (5): Relation between IPSS level of study group and their QOL

IPSS	QOL				P. Value
	High QOL (n=22)		Low QOL (n=118)		
	No	%	No	%	
Mild	20	39.2	31	60.8	< 0.000*
Moderate	2	2.6	76	97.4	
Severe	0	0.0	11	100	

Table (1): This table revealed that over half of the sample under study resides in rural regions, with over two thirds (65.7%) of them being between the ages of 60 and 69 and 34.3.6% being above the age of 70. In terms of education, it was found that just 11.5% of them had a university degree, and 40.0% of them had only a basic education.

Figure (1): This figure revealed that the vast majority of the studied geriatric complaints from diabetes mellitus and the majority of them suffering from hypertension.

Table (2): Regarding domains of QOL this table showed that the disease domain had the highest mean score 49.10 ± 15.93 , while the physical domain had the lowest mean score 33.56 ± 15.08 .

Figure (2): This figure revealed that the vast majority of the studied geriatric 84.0% had low quality of life.

Table (3): This figure illustrated that 55.7% of the studied sample had moderate international prostate symptom score IPSS and 7.9% of them had severe IPS symptoms.

Figure (3): This figure demonstrated that there was a statistically significant difference between the age group of the studied sample and their QOL $P=0.006$, as the vast majority of the elderly aged 70 and more achieved a low QOL level.

Figure (4): Concerning the relation between the residence of the geriatric patients and their QOL it was observed that there was a statistically significant difference between quality of life and their residence $P=0.000$.

Table (4): This table showed that there was a significant relationship between the marital status, educational level, and occupation of the studied sample and their QOL level ($P = 0.001$, $P = 0.000$, and $P = 0.006$), respectively.

Table (5): This table illustrates that there was a significant relationship between the IPSS of the study group and their QOL ($P = 0.000$).

Discussion:

BPH is a common condition in older men that can often result in LUTS. LUTS can have a significant negative impact on the QOL of geriatric patients.

Jain et al., 2020: This study aimed to assess the QOL and BPH-related symptoms among geriatric BPH, which is a common condition in older men that can often result in LUTS. LUTS can have a significant negative impact on the QOL of geriatric patients.

Jain et al., 2020: This study aimed to assess the QOL and BPH-related symptoms among geriatric patients.

Given that BPH is a condition mostly affecting the elderly, it is not surprising that about two-thirds of the investigated group were between the ages of 60 and 69, with a mean age of 68.61 ± 7.21 . This agrees with **Ferlin et al., 2022**, who reported that the percent of

the elderly who participated in the study and aged from 60 to 69 years was 69.8% with a mean age of 69 ± 5.6 .

As regards the residence of the studied sample, it was found that more than half of the elderly lived in rural areas. This may be due to the elderly who are living in rural areas suffering from difficult transportation to reach the hospital, so they ignore their health, while the rest of them lived in urban areas. This is in agreement with **Dutta et al. (2021)**, who reported that two thirds of the studied elderly lived in rural areas.

The current study showed that only 11.5% of the patients had a university education and 48.5% had less than basic education, this may suggest a more knowledge and treatment seeking behavior among the less educated people. This agrees with **Torres et al., 2021** who found that, in comparison to patients with university education, older individuals who were illiterate had a 17.8% higher prevalence of benign prostatic hyperplasia. Additionally, the current investigation, in keeping with **Baskaran et al., 2021** who reported that BPH was more common among low educational elderly participants or could only read and write.

Regarding the chronic diseases among the elderly patients, it was illustrated that the vast majority of the studied elderly complain from diabetes mellitus, and the majority of them suffer from hypertension. This might be because ageing changes make people more susceptible to chronic illnesses as they age. This agrees with **Esteves et al. (2021)**, who found that diabetes mellitus was the commonest chronic illness among the studied sample, followed by hypertension.

Concerning the distribution of the quality of life (QOL) domains among the geriatric patients, it was observed that the highest mean score was related to the disease domain, as it achieved 49.10 ± 15.93 , and the physical domain achieved the lowest mean score, 33.56 ± 15.08 ; this may be because BPH affects negatively on the physical activity of elderly people. This agrees with **Ferlin et al. (2022)**, who reported that the most affected domain was disease.

Owing to QOL among geriatric patients, it was revealed that the vast majority of the studied 84.0% achieved low quality of life. This may be due to the vast majority of the studied sample suffering from chronic disease that affects subsequently quality of life. This agrees with **Jain et al., 2020**, who found more than three quarters of the studied participants had low QOL.

The present results showed that there were IPSS, more than half of the studied sample suffering from moderate IPSS, this comparable to findings published in 2020 by **Liu et al.**, who discovered that the study's global prostate symptoms were 55.7%.

Concerning the QOL for the study groups, the present results revealed that there was a statistically significant difference between the age group of the studied sample, as they regarded their QOL ($P=0.006$), as the vast majority of the elderly aged 70 and more had a lower QOL level. This may be related to as one gets older, the quality of life decreases because of chronic disease and decrease of functional ability, this agrees with **Esteves et al., 2021** who found a statistically significant difference between the age of the studied sample and their QOL $P=0.000$.

Concerning relation between residence of the geriatric patients and their QOL it was observed that there was a statistically significant difference between quality of life and their residence $P=0.000$, this may be related to that geriatric people who live in the rural areas don't seek medical services because of the long space between hospitals and their homes, this agrees with **Motrich et al., 2020** who found a statistically significant difference between residence of the geriatric patients and their QOL $P=0.002$.

Also, the current results revealed that there was a statistically significant difference between the educational level of the studied sample as regards their QOL ($P=0.000$), this may be related to that non educated people hadn't health awareness regarding their health and don't seek help as early as possible in reverse to educated ones. This is consistent with the findings of **Torres et al., 2021**, who discovered a statistically significant difference ($P=0.0001$) between the educational level of the studied sample and QOL. However, **Motrich et al., 2020**, reported no statistically significant difference ($P=0.087$) between the educational level of the studied sample and QOL.

Concerning the relation between IPSS of the studied sample and their QOL, the present study reported that there was a statistically significant difference between the QOL of the studied sample and their IPSS $P=0.000$. In my opinion, the quality of life affected negatively by BPH and subsequently affect on the IPSS among geriatric patients, this agrees with **Jain et al., 2020** who found IPSS that there was a statistically significant difference between the QOL of the studied sample and their IPSS $P=0.000$.

Conclusion:

Age negatively affects BPH related symptoms and QOL of the geriatric patients. The largest symptom severity was observed in patients more than 70 years of age. LUTS associated with BPH have a significant negative impact on the (QOL) of geriatric patients. Also, it concluded that there was a statistically significant difference between the age group of the studied sample and their QOL $P=0.006$, as the vast majority of the geriatric aged 70 and had a low QOL level.

Recommendations:

- Conduct programs of health education about BPH to give it to the geriatric patients to help them manage their disease related symptoms
- Screening for all geriatric people for early BPH detection.
- Future research about quality of life and benign prostatic hyperplasia-related symptoms among large number of geriatric patients

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