

Impact on the Quality of Health of Elderly People with Benign Prostate Hyperplasia

Impacto na Qualidade de Saúde do Idoso com Hiperplasia Benigna de Próstata

Impacto en la Calidad de Salud de las Personas Mayores con Hiperplasia Benigna de Próstata

RESUMO

Objetivo: Identificar o impacto da hiperplasia benigna prostática em idosos submetidos a cirurgia num hospital público do Paraná. **Método:** Estudo quantitativo, descritivo e transversal, realizado num hospital de referência para a saúde de adultos e idosos, localizado em Curitiba - Paraná, realizado com 57 homens diagnosticados com hiperplasia benigna prostática atendidos no ambulatório de urologia. A pesquisa abrangeu quatro instrumentos de coleta de dados: o sociodemográfico e clínico, o International Prostate Symptom Score, o Questionário de impacto da incontinência urinária e o Inventário de Angústia Urogenital. Resultados: Antes da cirurgia, a maioria dos pacientes apresentou sintomas prostáticos moderados (52,6%). Quanto à incontinência urinária, predominou impacto leve (35,1%), enquanto no inventário de angústia urogenital prevaleceram sintomas moderados (50,9%). **Conclusão:** O comprometimento da funcionalidade e a saúde global do idoso, reforça a necessidade de cuidados multiprofissionais, humanizados e com uma prática baseada em evidências.

DESCRIPTORIOS: Hiperplasia prostática benigna; Qualidade de vida; Urologia; Obstrução prostática benigna.

ABSTRACT

Objective: To identify the impact of benign prostatic hyperplasia in elderly patients undergoing surgery in a public hospital in Paraná. **Method:** A quantitative, descriptive, cross-sectional study conducted in a referral hospital for adult and elderly health, located in Curitiba - Paraná, involving 57 men diagnosed with benign prostatic hyperplasia treated at the urology outpatient clinic. Four data collection instruments were used: the sociodemographic and clinical questionnaire, the International Prostate Symptom Score, the Urinary Incontinence Impact Questionnaire, and the Urogenital Distress Inventory. **Results:** Before surgery, most patients presented with moderate prostatic symptoms (52.6%). Regarding urinary incontinence, mild impact predominated (35.1%), while in the urogenital distress inventory, moderate symptoms were prevalent (50.9%). **Conclusion:** The impairment of functionality and the overall health of the elderly reinforces the need for multiprofessional, humanized, and evidence-based care.

DESCRIPTORS: Benign prostatic hyperplasia; Quality of life; Urology; Benign prostatic obstruction.

RESUMEN

Objetivo: Identificar el impacto de la hiperplasia prostática benigna en adultos mayores sometidos a cirugía en un hospital público de Paraná. **Método:** Estudio cuantitativo, descriptivo y transversal, realizado en un hospital de referencia para la salud de adultos y ancianos, ubicado en Curitiba - Paraná, con 57 hombres diagnosticados con hiperplasia prostática benigna atendidos en el ambulatorio de urología. La investigación incluyó cuatro instrumentos de recolección de datos: el cuestionario sociodemográfico y clínico, el International Prostate Symptom Score, el Cuestionario de Impacto de la Incontinencia Urinaria y el Inventario de Malestar Urogenital. Resultados: Antes de la cirugía, la mayoría de los pacientes presentó síntomas prostáticos moderados (52,6%). En cuanto a la incontinencia urinaria, predominó el impacto leve (35,1%), mientras que en el inventario de malestar urogenital prevalecieron los síntomas moderados (50,9%). **Conclusión:** El compromiso de la funcionalidad y la salud global del adulto mayor refuerza la necesidad de cuidados multiprofesionales, humanizados y con una práctica basada en evidencias.

DESCRIPTORES: Hiperplasia prostática benigna; Calidad de vida; Urología; Obstrucción prostática benigna.

Francisco José Koller

Doctor of Nursing. Head of the Surgery and Anesthesia Unit at the Hospital Complex of the Federal University of Paraná. Professor in the Nursing Program at Santa Cruz University Center. Curitiba – Paraná.
ORCID: <https://orcid.org/0000-0002-2911-7670>

Bianca Lapola Rocha

Student in the Nursing Program at Santa Cruz University Center. Curitiba – Paraná.
ORCID: <https://orcid.org/0009-0005-5123-2180>

Gabriela Cristina da Rocha

Student in the Nursing Program at Santa Cruz University Center. Curitiba – Paraná.
ORCID: <https://orcid.org/0009-0008-5478-3801>

Graziene Leonor Salim

Specialist in Operating Room Nursing and Material and Sterilization Center. Coordinator of the Surgical Unit at Zilda Arns Municipal Hospital for the Elderly. Curitiba – Paraná.
ORCID: <https://orcid.org/0000-0002-4519-9979>

Received: 08/31/2025

Approved: 09/16/2025

INTRODUCTION

Benign prostatic hyperplasia (BPH) is a concern in men's health and mainly affects the elderly with varying degrees of health impairment⁽¹⁾. It is a benign condition that enlarges the prostate gland due to the aging process and hormonal changes, which intensifies each year and requires a systematic approach to primary health care in the management of these patients⁽²⁾.

Although it is not a life-threatening

condition, it can cause serious complications, such as urinary retention, obstructive renal failure, recurrent urinary tract infections, bladder stone formation, and urinary tract obstruction^(3,4), painful ejaculation, erectile dysfunction, ejaculatory disorders, and low libido, negatively affecting quality of life^(5,6). Although symptoms may disappear spontaneously and its progression is generally slow, risk factors for developing the disease include advanced age, family history, and ethnicity, with men of African descent being more likely to develop it⁽⁷⁾.

The incidence affects about 79 million men worldwide, with the highest number of prevalent cases in China, India, and the United States, due to multiple causes and an increase in three main factors: population growth (94.93%), epidemiological changes (3.45%), and aging (1.62%)⁽⁴⁾. The prevalence of BPH cases is directly linked to the increase in life expectancy of the population, which brings up several health-related issues⁽²⁾. Between 2016 and 2020, the Department of Informatics of the Unified Health System recorded a total of 89,882 hospitalizations for BPH in the over-30 age group in Brazil, affecting about 50% of men over 50 and 90% of men in their eighth decade of life^(8,2).

There are several treatments for BPH, including non-invasive interventions: lifestyle changes and drug therapies have been shown to be effective in improving urinary symptoms and quality of life in patients with mild to moderate BPH⁽⁹⁾. For more severe cases, surgical techniques such as laser therapy and prostate enucleation have been shown to be effective in reducing prostate size and improving urinary flow.

Care planning should be carried out by a multidisciplinary healthcare team that plays a crucial role in creating intervention and prevention strategies, contributing to the planning of actions aimed at promoting men's health⁽¹⁰⁾. Personalized approaches to managing

BPH symptoms are essential. Advances in understanding pathophysiology and developing new therapies offer a range of treatment options, therapeutic approaches, and ways to treat each patient holistically⁽²⁾.

It is essential to highlight the importance of the nurse's role in decision-making regarding the care of patients with BPH, proactively in the treatment and rehabilitation of these patients, carried out in nursing consultations with an emphasis on primary health care, covering prevention, promotion, early detection of diseases, and care^(11, 1). Given this context, there is a need to identify the impact of benign prostatic hyperplasia in elderly men undergoing surgery at a public hospital in Paraná.

METHODOLOGY

A quantitative, descriptive, and longitudinal study was conducted at a referral hospital for adult and elderly health care located in Curitiba, Paraná. The hospital exclusively serves patients through the Unified Health System (SUS), referred by primary health care and the Urgent and Emergency Care Network, under the regulation of the Municipal Health Secretariat.

The convenience sample was determined by patients with BPH seen at the urology outpatient clinic, aged over 40 years, with a prostate volume above 40 grams described in radiological examinations, with lower urinary tract symptoms, and requesting surgical treatment. Patients who had undergone surgical treatment for the prostate gland in the last five years, had a radiological report of oncological disease of the urinary system, or had cognitive impairment to answer the questions were excluded.

The interviewees answered four instruments. The first instrument is socio-demographic and clinical, containing variables related to participant identification, clinical history, and history of

prostate disease. The second instrument is the International Prostate Symptom Score, used to analyze the impact of the prostate gland on the participant's daily routine, determine the best treatment option, and monitor the clinical condition. It uses seven questions measured on a Likert scale, with zero being the best quality and five being the worst quality of the symptom assessed in the question.

The third instrument is the urinary incontinence impact questionnaire. The abbreviated version contains seven items and refers to aspects of life that may be influenced or altered due to urinary incontinence. The total score is obtained by adding the scores for questions three, four, and five, with values ranging from zero to 21, considering that the higher the score, the worse the QoL. Thus, the impact on QoL is classified according to the score: no impact (zero points); mild impact (one to three points); moderate impact (four to six points); severe impact (seven to nine points); and very severe impact (10 or more points).

The fourth instrument is the Urogenital Distress Inventory, a six-question questionnaire that assesses disability related to urinary incontinence symptoms. The inventory has been adapted and validated for the Brazilian population and is specific to symptoms associated with lower urinary tract dysfunction, combining information on irritative, stress, and obstructive/discomfort symptoms. Its score has six questions divided into three subscales: urinary symptoms related to urgency (questions 1 and 2), effort (questions 3 and 4), and difficulty emptying the bladder (questions 5 and 6). This questionnaire has a maximum score of 18 points, and the higher the score, the more severe the symptoms reported [18]. Scores up to 6 were considered as patients with mild symptoms, from 7 points with moderate symptoms, and from 13 points, patients with severe urinary symptoms⁽¹⁵⁾.

The interviews were conducted on the day before the surgical intervention, with an average duration of 35 minutes. The data were entered into the Statistical Package for the Social Sciences program, with absolute and relative frequencies of the instrument variables. Participation in the study was voluntary and formalized by signing the Free and

Informed Consent Form. This study was approved by the Research Ethics Committee of the Municipal Health Secretariat under opinion number 6,592,211.

RESULTS

Fifty-seven men diagnosed with BPH participated in the study between June 6

and October 26, 2024. Table 01 shows the prevalence of married men (n=44; 77.2%), white men (n=53; 93%); men with a high school education (n=20; 35.1%); men without comorbidities (n=24; 42.1%); no history of smoking (n=38; 66.7%); no history of alcoholism (n=44; 77.2%); and sexually active (31; 54.4%) among the patients analyzed.

TABLE 1 - SOCIAL AND CLINICAL PROFILE OF PATIENTS WITH BPH

Social and clinical characteristics		n	%
Marital status	Married	44	77,2
	Divorced	6	10,5
	Single	4	7
	Widowed	3	5,3
Race/Color	White	53	93
	Brown	1	1,8
	Black	3	5,3
Level of education	High school graduate	20	35,1
	Incomplete high school education	5	8,8
	Complete elementary education	10	17,5
	Incomplete elementary education	16	28,1
	Complete higher education	4	7
Comorbidities	Incomplete higher education	2	3,5
	Acquired Immunodeficiency Syndrome	1	1,8
	Diabetes	2	3,5
	Diabetes mellitus associated with high blood pressure	16	28,1
	High blood pressure	12	21,1
Smoking history	High blood pressure associated with depression	1	1,8
	Inguinal disc herniation	1	1,8
	No	24	42,1
History of alcoholism	Ex-smoker	10	17,5
	Smoker	9	15,8
	No	38	66,7
Sexual activity	No	44	77,2
	Former alcoholic	5	8,8
Sexual activity	Yes	8	14
	Active	31	54,4
	Not active	26	45,6
Total		57	100

Source: The authors (2025)

According to Table 2, regarding prostate symptoms, most patients before surgery considered their symptoms to be moderate (n=30; 52.6%). However, in the qualitative analysis of the completed questionnaires, the question “in the last month, how many times did you

have a weak urinary stream?” stood out, with 21 (12%) patients reporting the answer “almost always,” and the question “in the last month, how many times did you have to urinate again within 2 hours after urinating?” with 17 (9.69%) of patients reporting about half the time.

DISCUSSION

Research into the quality of life of elderly patients with BPH prior to surgical prostatectomy has a major impact on the care provided by health services, as the characteristics of the population coincide with the sociodemographic profile data for the state of Paraná, where 64.6% of the male population is white, which may influence the diagnosis, management, and prevention of complications^(12,13).

Social factors, such as educational and economic levels, have a significant influence on both the incidence of BPH and adherence to and continuity of treatment, which are directly related to the degree of socioeconomic vulnerability of individuals⁽¹⁴⁾. It should be noted that the disparity in per capita income between whites and blacks can make it impossible to start, adhere to, and complete treatment, as the disparity was noted in the study conducted in the Southeast Region, which has superior technological and hospital resources compared to other Brazilian regions, and highlights that black individuals have the lowest salaries among the different ethnic groups, in addition to the cost of medications being incompatible with the average salary of most of the Brazilian population.

One of the factors that negatively impact quality of life is the combination of comorbidities such as diabetes mellitus and obesity, often present in patients with BPH, as presented in the randomized analysis of two samples, with methodological limitations in elucidating a causal association between these clinical conditions and the onset of BPH⁽¹⁵⁾.

In the state of Maranhão, the study on arterial hypertension detected it in 73.7% of patients with BPH, indicating a direct relationship with the worsening of urinary symptoms with increased prostatic volume, as well as a relationship with socioeconomic conditions and lifestyle⁽¹⁶⁾. A characteristic of quality of life studies is the relationship with modifiable risk factors related to lifestyle, which have received increasing attention with the association

TABLE 2 - International Prostate Symptom Score

Symptom severity	n	%
Severe symptoms	23	40,4
Moderate symptoms	30	
Mild symptoms	4	
Total	57	52,6

Source: The authors (2025)

Table 3 on the impact of urinary incontinence before surgery highlights that most patients consider the impact to be mild (n=20; 35.1%). However, in

the qualitative analysis of the completed questionnaires, it was evident that the question “your participation in social activities outside your home?” had the highest score (n=22; 38.6%).

TABLE 3 - Urinary incontinence impact questionnaire

Impact of incontinence	N	%
No impact	15	26,3
Slight impact	20	35,1
Moderate impact	13	22,8
Severe impact	9	15,8
Total	57	100

Source: The authors (2025)

Regarding Table 4 on the urogenital distress inventory, the most frequent re-

sponse was moderate symptoms (n=29; 50.9%).

TABLE 4 - Urogenital Distress Inventory Score

Symptom level	n	%
Mild symptoms	19	33,3
Moderate symptoms	29	50,9
Severe symptoms	9	15,8
Total	57	100

Source: The authors (2025)

of the development of various pathologies, including urological diseases, which point to a significant relationship between these diseases and behavioral habits.

Alcohol consumption has been associated with worsening urinary symptoms due to its diuretic effect. However, in this study, the data show that 77.2% of participants have no history of alcohol use but, due to prostate gland enlargement, present urinary retention and decreased urinary flow⁽¹⁵⁾.

The aging process brings about changes in sexual function, including reduced desire or impotence. However, a study conducted in Mexico reveals that 54.4% of older adults remain sexually active, demonstrating its relevance in old age. A negative correlation was observed between erectile dysfunction and mental health, while the physical aspect of quality of life showed a statistically significant relationship with sexual function, evidenced in psychophysical factors⁽¹⁸⁾.

Regarding the limitations of daily life caused by BPH, 52.6% of patients had prostate symptoms classified as moderate, with urinary stream weakness, urinary urgency, and the need to urinate again within less than two hours standing out. This was evidenced in a study conducted in Mexico, which highlights the variability of BPH-related symptoms correlated with the perception of health-related quality of life in 300 men over 50 years of age, suggesting that erectile dysfunction and prostate symptoms were frequent events, as well as low perception of quality of life, a fact that influences the prevalence and intensity of clinical signs⁽¹⁹⁾.

The study conducted in the south of the state of Maranhão indicates a correlation between increased prostate volume and intensification of symptoms, emphasizing that prostate volume above 40g is a risk parameter for worsening LUTS, and there is a direct relationship between aging and increased prostate volume, which contributes to the clinical progression of BPH and the worsening of urinary disorders⁽¹⁶⁾.

Among the reduction in quality of life, the impact of urinary incontinence, evidenced in the present study with 35.1% of the elderly classifying it as mild, similar to the study conducted in Nashville (USA), cites incontinence as an independent factor limiting daily activities and having negative repercussions on both the personal and professional lives of affected individuals. Such variables depend on the severity and frequency of urinary symptoms, such as difficulty urinating, urinary urgency, increased daytime frequency, and feeling of incomplete bladder emptying.

A study of 6,924 patients with BPH in the United States, with lower urinary tract symptoms, pointed to urinary incontinence associated with a significant reduction in self-esteem, social isolation, and worsening mental health, and demonstrated that urinary incontinence related to BPH compromises the quality of life of the elderly, especially in the physical, emotional, and social spheres⁽²²⁾.

And in the Global Burden of Disease (GBD) study, the most comprehensive and detailed global disease analysis initiative to date, the symptoms described are related to mobility restrictions, social isolation, and decreased energy levels, which can consequently affect routine activities, leisure, and interpersonal relationships, since urinary incontinence is a multifaceted problem with profound psychosocial repercussions on patients⁽²³⁾.

With regard to urogenital distress, the study conducted in Maranhão cites that the symptoms are the most frequently reported and are associated with several health implications, significantly affecting patients' quality of life, causing changes in sleep, daily activities, intimacy, and professional life⁽¹⁶⁾. The degree of impairment observed is specifically related to clinical manifestations of lower urinary tract dysfunction, including irritative, stress, and obstructive/uncomfortable symptoms, which are considered in an integrated manner for a comprehensive assessment of the condition⁽²⁴⁾.

The main limitations refer to self-per-

ception of the disease, which can lead to underreporting or omission of information, in addition to the scarcity of research on the subject. The local sample and cross-sectional design also restrict the generalization of the findings. Future studies with greater geographic coverage and longitudinal methodologies are recommended to assess the effects of surgery over time and strengthen the evidence for public health planning. This study has limitations related to self-perception of the disease, the restricted sample, and the cross-sectional design, factors that reduce the generalization of the findings. Longitudinal and multicenter investigations are recommended to strengthen the robustness of the evidence.

CONCLUSION

This study aimed to assess the impact of benign prostatic hyperplasia (BPH) in elderly men undergoing surgery at a public hospital in Paran . Using a quantitative approach, with the application of validated instruments adapted to the Brazilian reality (IPSS, IIQ-7, and UDI-6), it was possible to identify the degree of impairment in the quality of life of these patients before surgical intervention.

The results showed that most patients had moderate prostate symptoms, as well as mild to moderate impacts related to urinary incontinence and urogenital distress. These symptoms directly affect social activities, physical performance, sleep, and emotional well-being, demonstrating how much BPH compromises the functionality and overall health of the elderly. Thus, the importance of a multidisciplinary and humanized approach to men's health care is reinforced, with an emphasis on educational actions and the active participation of the nursing team. Qualified listening, clinical follow-up, and individualized care are essential strategies for coping with the disease and promoting quality of life.

References

- SOUZA, F. M. de et al. Advances in the treatment of benign prostatic hyperplasia: An integrative review. *Research, Society and Development*, [S. l.], v. 13, n. 6, p. e0513645877, 2024. DOI: 10.33448/rsd-v13i6.45877. Disponível em: <https://rsdjournal.org/index.php/rsd/article/view/45877>. Acesso em: 17 fev. 2025.
- GUÉDES, G. R. L.; IBRAHIM, M. de O. N. Análise descritiva epidemiológica das internações por hiperplasia prostática, na população masculina acima de 30 anos, no Brasil nos últimos 5 anos. *Revista de Saúde*, [S. l.], v. 13, n. 3, p. 81–85, 2022. DOI: 10.21727/rs.v13i3.3249. Disponível em: <https://editora.univassouras.edu.br/index.php/RS/article/view/3249>. Acesso em: 13 fev. 2025.
- VÍCTOR, J.; TESOLIN, P.; JAE HUNG JUNG. Update on the management of benign prostatic hyperplasia and the role of minimally invasive procedures. *Prostate International*, v. 11, n. 1, p. 1–7, 1 mar. 2023. Acesso em: 9 fev. 2025.
- ZI, H.; LIU, M. Y.; LUO, L. S. et al. Carga global de hiperplasia prostática benigna, infecções do trato urinário, urolitíase, câncer de bexiga, câncer de rim e câncer de próstata de 1990 a 2021. *Military Medical Research*, v. 11, p. 64, 2024. DOI: <https://doi.org/10.1186/s40779-024-00569-w>. Acesso em: 19 fev. 2025
- PINTO, Loiane Loah et al. Melhorando a vida: resultados da ressecção transuretral da próstata. *Revista CPAQV - Centro de Pesquisas Avançadas em Qualidade de Vida*, [S. l.], v. 16, n. 2, 2024. DOI: 10.36692/V16N2-58R. Disponível em: <https://revista.cpaqv.org/index.php/CPAQV/article/view/1797>. Acesso em: 19 fev. 2025.
- FELICIO, F. C. et al. Hiperplasia prostática benigna (HPB): tratamento e considerações anestésicas. *Brazilian Journal of Implantology and Health Sciences*, [S. l.], v. 6, n. 8, p. 667–680, 2024. DOI: 10.36557/2674-8169.2024v6n8p667-680. Disponível em: <https://bjih.com.br/bjih/article/view/2832>. Acesso em: 20 mar. 2025.
- BARROCO, A. V. et al. Hiperplasia prostática benigna - uma revisão abrangente sobre epidemiologia, fatores de risco, fisiopatologia, manifestações clínicas, diagnóstico, classificação e estadiamento, tratamento, perspectivas futuras e pesquisa em andamento. *Brazilian Journal of Health Review*, [S. l.], v. 7, n. 2, p. e68795, 2024. DOI: 10.34119/bjhrv7n2-332. Disponível em: <https://ojs.brazilianjournals.com.br/ojs/index.php/BJHR/article/view/68795>. Acesso em: 21 mar. 2025.
- SILVA, Marcello Henrique Araujo da; SOUZA, Jady Assis de. Vulnerabilidade de pacientes com hiperplasia prostática tratados com dutasterida e finasterida. *Revista Bioética*, v. 29, p. 394–400, 2021. Acesso em: 13 fev. 2025.
- SILVA, Ana Carolina Magalhães Chagas e et al. Hiperplasia prostática benigna: uma revisão abrangente dos aspectos diagnósticos e terapêuticos. *BJHBS Brazilian Journal of Health and Biological Science*, [S. l.], v. 1, n. 1, p. e17, 2024. Disponível em: <https://bjhbs.com.br/index.php/bjhbs/article/view/17>. Acesso em: 9 fev. 2025.
- PELOSO-CARVALHO, B. de M. et al. Evidências de cuidado do enfermeiro aos homens com câncer de próstata: revisão integrativa. *Revista de Enfermagem do Centro-Oeste Mineiro*, [S. l.], v. 11, 2021. DOI: 10.19175/recom.v11i0.3894. Disponível em: <http://www.seer.ufsj.edu.br/recom/article/view/3894>. Acesso em: 15 mar. 2025.
- DA SILVA, Helen Vargas et al. Câncer de Próstata: Retrato de uma realidade dos pacientes, a importância e o preconceito com o toque retal. *Brazilian Journal of Health Review*, v. 4, n. 4, p. 14551-14561, 2021. Acesso em: 10 mar. 2025.
- IBGE. Censo 2022: pela primeira vez desde 1991, a maior parte da população do Brasil se declara parda. Agência IBGE de Notícias, 2022. Disponível em: <https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/38719-censo-2022-pela-primeira-vez-desde-1991-a-maior-parte-da-populacao-do-brasil-se-declara-parda>. Acesso em: 11 Jun 2025.
- LEE, S. et al. Current trends in minimally invasive therapies for benign prostatic hyperplasia. *European Urology Reviews*, v. 19, n. 1, p. 27–34, 2023
- CAVALCANTE, H. R. et al. Conhecimento sobre o câncer de próstata e seus fatores associados em homens adultos. *Revista Brasileira de Educação Médica*, São Paulo, v. 44, n. 3, p. e049, 2020. Disponível em: <https://doi.org/10.1590/1981-5271v44.3-20190240>. Acesso em: jul 2025.
- Wang, YB, Yang, L., Deng, YQ. et al. Relação causal entre obesidade, fatores de estilo de vida e risco de hiperplasia prostática benigna: um estudo de randomização mendeliana univariável e multivariável. *J Transl Med* 20 , 495 (2022). <https://doi.org/10.1186/s12967-022-03722-y>. Acesso em: 20 Jun 2025.
- AMORIM SANTOS, M.; SAMPAIO SOUZA, A.; MARTINS GOMES FONTOURA, G.; CRISTINA ARAÚJO-GOMES, R.; SILVANA SARMENTO DOS SANTOS, F.; LEONARDO ARAÚJO OLIVEIRA, B. Prevalência de sintomas do trato urinário inferior relacionados à hiperplasia prostática benigna em um ambulatório de urologia no sul do estado do Maranhão. *Revista Brasileira Multidisciplinar*, [S. l.], v. 26, n. 1, p. 3-13, 2023. DOI: 10.25061/2527-2675/ReBraM/2023.v26i1.1442. Disponível em: <https://www.revistarebram.com/index.php/revistauniara/article/view/1442>. Acesso em: 3 jun. 2025.
- Bientinesi R, Gandi C, Vaccarella L, Sacco E. Lifestyle in urology: Benign diseases. *Urologia*. 2021 Aug;88(3):163-174. doi: 10.1177/0391560321994386. Epub 2021 Feb 12. PMID: 33579177. Acesso em: 03 Jun 2025.
- MONTIEL-JARQUÍN, Álvaro J.; GUTIÉRREZ-QUIROZ, Claudia T.; PÉREZ-VÁZQUEZ, Ana L.; ORTIZ-AGUSTÍN, Johnny J.; GARCÍA-GALICIA, Arturo; LORÍA-CASTELLANOS, Jorge. Calidad de vida y disfunción eréctil en pacientes con hiperplasia prostática benigna. *Puebla: Instituto Mexicano del Seguro Social (IMSS)*, 2020. Acesso em 20 Jun 2025.
- Guzmán-Esquivel José , Delgado-Enciso Iván , Guzmán-Solórzano José Alejandro , Urtiz-Licea Ana Julia , Parra-Lomeli Héctor , Ríos-Bracamontes Eder Fernando , Murillo-Zamora Efrén . DISFUNCIÓN ERÉCTIL, SÍNTOMAS DO TRATO URINÁRIO INFERIOR E CALIDADE DE VIDA EM VARONES MAIORES DE 50 ANOS. *Archivos Españoles de Urologia* . 2021, 74(2): 224-230. Acesso em: 20 Jun 2025.
- KOCH, G. E.; KAUFMAN, M. R. Male Stress Urinary Incontinence. **Urologic Clinics of North America**, v. 49, n. 3, p. 403–418, ago. 2022. DOI: [10.1016/j.ucl.2022.04.005](<https://doi.org/10.1016/j.ucl.2022.04.005>). Disponível em: <https://pubmed.ncbi.nlm.nih.gov/35931433/> Acesso em: 23 jun. 2025.
- Harris S, Leslie SW, Riggs J. Incontinência Urinária Mista. [Atualizado em 8 de junho de 2024]. Em: *StatPearls* [Internet]. Ilha do Tesouro (FL): StatPearls Publishing; jan. de 2025. Disponível em: <https://www.ncbi.nlm.nih.gov/books/NBK534234/>. Acesso em 20 Jun 2025.
- VASUDEVAN, V.; FERNANDEZ, G. M.; DUNN, R. L.; MINER, M.; ROEHRBORN, C.; ROSEN, R.; SEFTEL, A.; SPINO, C.; WEI, J. T.; SARMA, A. V.; BPH REGISTRY AND PATIENT SURVEY STEERING COMMITTEE. Relative impact of male urinary conditions on overall quality of life. **Neurourology and Urodynamics**, v. 44, n. 6, p. 1325-1331, ago. 2025. DOI: <https://doi.org/10.1002/nau.70090>.
- GÜLER SÖNMEZ, T.; UĞRAŞ, E.; GÜL ŞAHİN, E.; FİDANCI, I.; AKSOY, H.; AYHAN BAŞER, D. The prevalence of incontinence and its impact on quality of life. **Medicine (Baltimore)**, v. 103, n. 52, p. e41108, 27 dez. 2024. DOI: [10.1097/MD.0000000000041108](<https://doi.org/10.1097/MD.0000000000041108>). Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11688079/> Acesso em: 25 ago. 2025.
- NG, M.; LESLIE, S. W.; BARADHI, K. M. Hiperplasia Prostática Benigna. [Atualizado em 20 out. 2024]. In: **StatPearls* [Internet]. Ilha do Tesouro (FL): StatPearls Publishing; jan. 2025. Disponível em: <https://www.ncbi.nlm.nih.gov/books/NBK558920/> Acesso em: 25 ago. 2025.