

Nursing Care of 59-Year-Old Patient Undergoing Prostatectomy for Benign Prostatic Hyperplasia at University of Maiduguri Teaching Hospital: A Case Study Approach

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ABSTRACT

Background: Benign prostatic hyperplasia (BPH) is a common nonmalignant enlargement of the prostate gland, significantly impacting the quality of life in aging males. Prostatectomy remains a definitive treatment for severe BPH cases unresponsive to medical therapy. Nursing care is crucial in preoperative preparation, postoperative recovery, and patient education. **Case Presentation:** This case study discusses a 59-year-old male patient diagnosed with BPH who underwent an open prostatectomy at the University of Maiduguri Teaching Hospital. Detailed nursing assessments, interventions, and outcomes are described. **Conclusion:** Nursing management focusing on preoperative education, postoperative monitoring, pain control, early mobilization, and catheter care contributed to the patient's successful recovery and early discharge. Integrating evidence-based nursing practices ensure optimal patient outcomes in surgical settings.

Keywords: Benign Prostatic Hyperplasia, Prostatectomy, Nursing Care, Postoperative Management, Case Study.

INTRODUCTION

Benign prostatic hyperplasia (BPH) represents one of the most frequent urological conditions affecting aging men globally. By age 60, approximately 50% of men experience histologic evidence of BPH, with symptoms ranging from urinary frequency and urgency to retention and incontinence (Coyne et al., 2009). When conservative and pharmacologic treatments fail, surgical intervention, particularly prostatectomy, remains the gold standard for symptom relief and prevention of complications such as renal failure or bladder dysfunction (Roehrborn, 2011).

The role of nursing is central across the perioperative journey of BPH patients. Nurses not only facilitate physical recovery but also provide emotional support, promote early mobilization, prevent complications, and educate patients on postoperative self-care (Smeltzer, Bare, Hinkle, & Cheever, 2010). In low-resource settings such as Nigeria, where healthcare resources and patient literacy levels may vary widely, nursing care becomes even more critical.

This case study presents a comprehensive account of a male patient with BPH who underwent open prostatectomy. It highlights the clinical course, the nursing interventions applied, and the outcome achieved.

Healthcare is a dynamic and evolving field where patient-centered care and evidence-based practices converge to improve outcomes and enhance quality of life. In surgical nursing, managing chronic, progressive conditions such as Benign Prostatic Hyperplasia (BPH) necessitates a blend of clinical expertise, critical thinking, and

compassionate care. Nurses play a pivotal role in the continuum of care, from preoperative assessment to postoperative rehabilitation, particularly in the context of urological surgeries like prostatectomy. Their involvement ensures the holistic care of patients undergoing such interventions, addressing not only physical healing but also psychological and educational needs (Black & Hawks, 2014).

BPH is a prevalent urological condition that significantly affects the aging male population, with an increasing global burden due to rising life expectancy. The management of BPH, especially when surgical intervention becomes necessary, requires interdisciplinary collaboration and coordinated nursing care tailored to the specific needs of patients. A comprehensive understanding of BPH, its pathophysiology, clinical manifestations, and treatment modalities is therefore essential for nurses to provide optimal care.

This paper focuses on the case of a 59-year-old male patient diagnosed with BPH, who underwent a prostatectomy at the University of Maiduguri Teaching Hospital (UMTH). The detailed exploration of his perioperative journey highlights the essential role of nursing interventions in promoting recovery and preventing complications. Furthermore, it underscores the importance of structured patient education, early mobilization, pain management, and psychosocial support in the surgical nursing care of patients with BPH.

The significance of studying cases like this extends beyond individual patient outcomes; it provides insights into best practices, challenges, and opportunities for improving surgical nursing care in hospital settings. It also aligns with broader healthcare goals of enhancing patient safety, reducing postoperative morbidity, and fostering patient empowerment through knowledge and participation in their care (Smeltzer, Bare, Hinkle, & Cheever, 2010).

Background on Benign Prostatic Hyperplasia (BPH)

Epidemiology and Global Burden

Benign Prostatic Hyperplasia is one of the most common non-cancerous urological disorders among men, particularly those over the age of 50. Epidemiological studies suggest that the prevalence of histological BPH increases steadily with age: approximately 50% of men aged 50–60 years and up to 90% of men over 80 years exhibit histological evidence of BPH (Berry, Coffey, Walsh, & Ewing, 1984; McVary, 2006). Symptomatic BPH, characterized by lower urinary tract symptoms (LUTS) such as urinary frequency, nocturia, hesitancy, and incomplete bladder emptying, affects about 30% of men over 65 years globally (Wei et al., 2008).

In Africa, BPH constitutes a major public health concern due to late presentation, limited healthcare access, and cultural factors affecting health-seeking behavior. Studies from Nigeria report a significant burden of symptomatic BPH among elderly males, often necessitating surgical intervention due to complications like acute urinary retention (Mbaeri, Orakwe, Nwofor, & Oranusi, 2013).

Pathophysiology

BPH is characterized by the non-malignant enlargement of the prostate gland, primarily due to the proliferation of stromal and epithelial cells. The exact etiology remains multifactorial, involving hormonal imbalances, aging-related changes, and genetic predispositions (McVary, 2006). Androgens, particularly dihydrotestosterone (DHT), play a central role by stimulating prostate tissue growth. Estrogen levels, which relatively increase with age in men, may also contribute by sensitizing prostatic tissues to DHT (Untergasser, Madersbacher, & Berger, 2005).

The resultant prostate enlargement can obstruct the urethra, leading to mechanical and dynamic factors causing urinary symptoms. Bladder hypertrophy and reduced compliance may develop over time, exacerbating urinary difficulties and predisposing to complications such as urinary tract infections, bladder stones, and renal dysfunction (Roehrborn, 2008).

Clinical Manifestations

The clinical presentation of BPH is variable but often includes a constellation of LUTS classified into obstructive and irritative symptoms. Obstructive symptoms include weak urinary stream, hesitancy, straining, intermittent stream, and a feeling of incomplete emptying. Irritative symptoms involve urinary frequency, urgency, nocturia, and dysuria (Nickel, 2006).

The severity of symptoms can significantly impair quality of life, affecting sleep, work productivity, and emotional well-being. Assessment tools such as the International Prostate Symptom Score (IPSS) are commonly used to quantify symptom severity and guide treatment decisions (Barry et al., 1992).

Diagnosis

Diagnosis of BPH involves a combination of clinical evaluation, symptom scoring, and investigations. Digital rectal examination (DRE) remains a cornerstone for assessing prostate size, consistency, and excluding malignancy. Prostate-specific antigen (PSA) testing is used to rule out prostate cancer, although mild elevations may be seen in BPH (Carballido et al., 2019). Urinalysis, imaging studies (e.g., transrectal ultrasound), and urodynamic testing may be employed to assess bladder function and degree of obstruction.

Management Strategies

Management of BPH is guided by symptom severity, impact on quality of life, and the presence of complications. Options range from conservative watchful waiting to pharmacotherapy and surgical intervention.

Medical Management: Alpha-blockers (e.g., tamsulosin) and 5-alpha-reductase inhibitors (e.g., finasteride) are commonly used medications. Alpha-blockers relax prostatic smooth muscle to improve urine flow, while 5-alpha-reductase inhibitors shrink the prostate by inhibiting DHT formation (McConnell et al., 1998).

Minimally Invasive Procedures: Techniques such as transurethral microwave thermotherapy and laser therapy offer alternatives for patients unfit for surgery.

Surgical Intervention: Open prostatectomy or transurethral resection of the prostate (TURP) remains the gold standard for patients with moderate to severe symptoms, large prostate size, or complications like recurrent urinary retention (Rassweiler, Teber, Kuntz, & Hofmann, 2006).

In the case presented, an open prostatectomy was performed due to significant prostate enlargement and persistent symptoms unresponsive to medical therapy.

Surgical Nursing Care for BPH

Surgical intervention for BPH requires meticulous perioperative nursing care to optimize outcomes. Key nursing responsibilities include:

Preoperative Phase:

Comprehensive patient education about surgical procedures, anesthesia, and postoperative expectations.

Preoperative optimization (e.g., controlling hypertension, ensuring adequate hydration).

Psychological support to alleviate fear and anxiety.

Intraoperative Phase:

Monitoring for hemodynamic stability.

Maintaining sterile techniques to prevent infections.

Postoperative Phase:

Bladder irrigation to prevent clot retention.

Monitoring for bleeding, infection, urinary output, and pain.

Early mobilization to prevent complications like deep vein thrombosis.

Patient education on catheter care, voiding techniques post-catheter removal, and lifestyle modifications (Ignatavicius & Workman, 2015).

Nursing interventions directly influence recovery speed, complication rates, and patient satisfaction. As such, surgical nurses must be skilled not only in clinical procedures but also in communication, patient education, and emotional support.

Psychosocial Considerations

The psychosocial impact of BPH and its treatment can be profound. Patients may experience embarrassment, frustration, or depression due to urinary symptoms and postoperative changes (Rosen et al., 2003). Sexual dysfunction is another concern post-prostatectomy, necessitating sensitive counseling and support.

Holistic nursing care should incorporate psychosocial assessments and interventions, including facilitating support groups, providing psychological counseling referrals, and involving family members in care planning.

Prognosis and Quality of Life

With appropriate management, the prognosis for BPH is excellent. Surgical interventions like prostatectomy effectively relieve symptoms and improve quality of life for the majority of patients. However, potential complications such as urinary incontinence, erectile dysfunction, and urethral strictures underscore the need for vigilant postoperative follow-up and patient education (Tubaro, 2004).

Nurses play an essential role in ensuring continuity of care from hospital to home, empowering patients with the knowledge and skills necessary for self-care and early detection of complications.

Case Presentation**Patient Information**

Age: 59 years old

Gender: Male

Ethnicity/Nationality: Nigerian

Occupation: Retired Civil Servant

Presenting Complaints:

Urinary hesitancy

Weak urine stream

Nocturia (3–4 times per night)

Sensation of incomplete bladder emptying

Medical History:

Hypertension (well controlled with medication)

Surgical History:

None

Medications:

Amlodipine 5 mg daily for hypertension

Clinical Findings

Complaints of difficulty initiating urination, weak urinary stream, nocturia (5-6 times/night), and sensation of incomplete bladder emptying.

Digital rectal examination (DRE) revealed an enlarged, non-tender prostate.

Ultrasound showed prostate volume of 95 grams.

PSA (Prostate-Specific Antigen) level was 3.8 ng/mL (within normal range for age).

Diagnosis

Primary Diagnosis: Benign Prostatic Hyperplasia (BPH)

Planned Procedure: Open Prostatectomy (Simple Retropubic Prostatectomy)

Timeline of Events and Specific Nursing care rendered:

Day: One

Date	Event & Nursing Activities				
5 March 2017 (Day 1)	Admission and Preoperative Preparation:				
	- Patient admitted to Surgical Ward B, University of Maiduguri Teaching Hospital at 9:00 AM.				
	- Complete nursing assessment conducted (vital signs, health history, physical examination).				
	- Preoperative laboratory investigations collected (CBC, electrolytes, urinalysis).				
	- Informed consent obtained and verified.				
	- Nil per oral (NPO) status commenced from midnight.				
	- Psychological preparation is done to reduce anxiety.				
	- Nil per oral (NPO) status commenced from midnight.				
	- Vital signs monitored every 4 hours.				

Day: Two.

6 March 2017 (Day 2)	Surgical Intervention:				
	- Patient transferred to operating theatre at 7:30 AM.				
	- Underwent open prostatectomy under spinal anesthesia.				
	- Surgery completed successfully without complications by 11:30 AM.				
	- Patient transferred to Post-Anesthesia Care Unit (PACU) for close monitoring.				
	- Foley catheter inserted intraoperatively; bladder irrigation commenced.				
	- Vital signs monitored every 15 minutes for the first hour, then hourly.				
	- Pain management initiated (IV paracetamol 1g every 8 hours, tramadol PRN).				

Day: Three

7 March 2017 (Day 3)	Immediate Postoperative Care:				
	- Patient alert, stable vital signs.				
	- Bladder irrigation continued with monitoring for hematuria and clot retention.				
	- Catheter patient checked every 2 hours.				
	- Intravenous fluids maintained.				
	- Encouraged deep breathing and coughing exercises to prevent pulmonary complications.				
	- Patient-assisted passive mobilization initiated (sitting up in bed).				
	- Pain assessed using numeric scale and managed appropriately.				

Day: Four

8 March 2017 (Day 4)	Early Recovery Phase:				
	- Continued catheter care and monitoring of urine output (color, volume, clarity).				
	- IV fluids tapered; patient started on oral fluids as tolerated.				

	- Gradual diet progression initiated (clear fluids to soft diet).				
	- Patient ambulated with assistance.				
	- Education on the importance of mobilization and hydration provided.				
	- Monitored for signs of infection: wound site, urine analysis.				

Day: Five

9 March 2017 (Day 5)	Mobilization and Self-Care Training:				
	- Patient ambulating independently with minimal assistance.				
	- Foley catheter drainage clear with minimal bloodstaining.				
	- Encouraged independent hygiene activities.				
	- Reviewed medication regimen (antibiotics, analgesics, stool softeners).				
	- Provided education on signs and symptoms of urinary infection and catheter care.				
	- Began planning for catheter removal.				

Day: Six

10 March 2017 (Day 6)	Catheter Removal and Trial Void:				
	- Foley catheter removed at 8:00 AM after physician evaluation.				
	- Trial void initiated — patient instructed on double voiding technique.				
	- Post-void residual assessed by bladder scan — minimal residual observed.				
	- Observed patient for urinary retention, incontinence, hematuria.				
	- Patient voiding satisfactorily without difficulty.				
	- Reinforced pelvic floor muscle exercises (Kegel exercises) education.				

Day: Seven

11 March 2017 (Day 7)	Discharge Planning and Follow-Up Arrangement:				
	- Final vital signs and assessment stable.				
	- Wound site clean and dry.				
	- Patient counseled on home care:				
	- Maintain hydration (2–3L per day).				
	- Avoid strenuous activities for 6 weeks.				
	- Monitor urine for any signs of infection or blood.				
	- Discharge medications provided (oral antibiotics, analgesics, stool softeners).				
	- Outpatient clinic follow-up appointment scheduled for 25 March 2017.				
	- Patient discharged at 11:30 AM with family support arranged.				

Nursing Assessment and Diagnoses

Using Majorie Gordon's Functional Health Patterns:

Urinary Elimination: Impaired urinary elimination related to urinary obstruction secondary to BPH.

Comfort: Acute pain related to surgical intervention.

Risk for Infection: Related to postoperative wound and catheterization.

Health Management: Deficient knowledge related to postoperative self-care and lifestyle adjustments.

Nursing Interventions and Actions

Preoperative Phase

Patient Education: Explained the surgical procedure, potential risks, and importance of postoperative catheter care.

Psychological Support: Addressed fears about surgery and anesthesia through therapeutic communication.

Preoperative Checklist: Ensured consent form was signed, fasting initiated, and preoperative labs completed.

Intraoperative Phase

Nursing Collaboration: Assisted the surgical team by ensuring aseptic conditions and patient positioning.

Postoperative Phase

Immediate Postoperative Care (First 24–48 Hours)

Monitoring: Vital signs monitored every 15 minutes for the first hour, then hourly.

Hemorrhage Prevention: Monitored urinary output through a three-way Foley catheter for signs of hematuria or clot retention.

Pain Management: Administered prescribed analgesics (IV paracetamol and tramadol) and assessed pain regularly using a 0–10 numeric scale.

Infection Control: Maintained sterile techniques during catheter and wound care.

Ongoing Postoperative Care (Day 3–7)

Mobilization: Encouraged early ambulation to prevent thromboembolism and promote bowel function.

Nutrition: Assisted patient with progressive diet introduction, emphasizing fluids to flush urinary system.

Patient Education:

Importance of catheter care at home.

Signs of infection or complications to report.

Lifestyle modifications, including fluid intake and avoiding heavy lifting for six weeks.

Outcomes

Successful Recovery: No postoperative infections, hemorrhage, or catheter-related complications observed.

Pain Controlled: Patient reported pain score reduced from 7/10 on Day 1 to 1/10 by Day 5.

Urinary Function Restored: Patient resumed spontaneous urination after catheter removal on Day 6.

Patient Satisfaction: Expressed high satisfaction with nursing care and understanding of self-care instructions.

Nursing Care Plan:

Nursing Care Plan for a Patient with Benign Prostatic Hyperplasia (BPH)

Nursing Diagnosis 1: Impaired Urinary Elimination related to bladder outlet obstruction secondary to BPH as evidenced by urinary frequency, urgency, nocturia, and incomplete emptying.

Goals/Expected Outcomes

Patients will demonstrate improved urinary patterns with decreased frequency and urgency within 72 hours.

Patients will verbalize decreased nocturia and improved ability to empty the bladder after 5 days.

Nursing Interventions and Rationales

Nursing Interventions and Rationales	
Intervention	Rationale
Monitor urinary output, noting frequency, volume, and characteristics of urine.	Provides baseline data and helps assess for urinary retention or worsening obstruction.
Encourage patient to void	Reduces the risk of urinary stasis and further bladder distension.

at regular intervals (e.g., every 2–4 hours).	
Implement "double voiding" techniques (ask the patient to void, relax, and attempt to void again).	Helps ensure more complete bladder emptying.
Educate the patient to avoid caffeine and alcohol.	These substances can irritate the bladder and worsen urinary symptoms.
The administer prescribed alpha-adrenergic blockers (e.g., tamsulosin) as ordered.	These medications relax the muscles of the bladder neck and prostate, improving urine flow.
Assess for signs of urinary tract infection (fever, dysuria, cloudy urine).	Patients with incomplete emptying are at risk of infections.

Evaluation

Patient reports decreased urgency and nocturia.

Patient demonstrates understanding of bladder-emptying techniques.

Nursing Diagnosis 2: Risk for Infection related to urinary stasis and possible catheterization.

Goals/Expected Outcomes:

patient will remain free from signs and symptoms of urinary tract infection during hospitalization.

Patient will verbalize understanding of infection prevention measures by discharge.

Nursing Interventions and Rationales:

Intervention	Rationale
Perform perineal care daily and after each episode of incontinence.	Reduces bacterial colonization and prevents infection.
Maintain strict aseptic techniques during catheter insertion if necessary.	Decreases the risk of introducing pathogens into the urinary tract.
Monitor for signs of infection: fever, burning sensation, foul-smelling urine.	Early detection of infection promotes timely treatment.

Encourage fluid intake (unless contraindicated).	Adequate hydration helps flush bacteria from the urinary tract.
Educate patients on hand hygiene and catheter care (if indwelling catheter is used).	Promotes patient participation in infection control.

Evaluation

Patients remain afebrile with clear, odorless urine.

No signs or symptoms of urinary tract infection are observed.

Nursing Diagnosis 3: Acute Pain related to bladder distension secondary to urinary retention.

Goals/Expected Outcomes:

Patient will verbalize a decrease in pain within 30 minutes of intervention.

Patient will demonstrate relaxation techniques to cope with discomfort.

Nursing Interventions and Rationales	
Intervention	Rationale
Assess pain level, location, duration, and intensity using a pain scale.	Provides baseline data for evaluating interventions.
Assist with bladder emptying through non-invasive measures (e.g., warm baths, running water sound).	Relaxation can promote easier voiding and reduce bladder pressure.
The administer prescribed analgesics as needed.	Provides relief of moderate to severe pain.
Ensure privacy and provide emotional support during voiding attempts.	Reduces anxiety and embarrassment, promoting relaxation and improved voiding.
Prepare the patient for catheterization if urinary retention persists.	Timely catheterization relieves bladder distension and associated pain.

Evaluation

Patient reports relief of pain after voiding or catheterization.

Pain scores decrease as measured by the pain scale.

Nursing Diagnosis 4: Anxiety related to diagnosis, treatment, and potential surgical interventions (e.g., TURP).

Goals/Expected Outcomes:

Patient will verbalize decreased anxiety after discussing treatment options and prognosis.

Patient will demonstrate relaxation techniques (e.g., deep breathing) to manage anxiety.

Nursing Interventions and Rationales

Intervention	Rationale
Assess patient's level of anxiety and coping mechanisms.	Identifies the need for further emotional support and tailored interventions.
Provide factual, simple explanations regarding BPH, its treatment, and prognosis.	Reduces fear of the unknown and promotes informed decision-making.
Encourage patient to express concerns and ask questions.	Facilitates open communication and builds trust.
Teach relaxation techniques (deep breathing, visualization).	Empowers patient with tools to manage anxiety independently.
Involve family members if appropriate.	Family support can reduce anxiety and provide emotional comfort.

Evaluation

Patient states that anxiety has decreased after education and discussion.

Patient uses taught relaxation techniques effectively.

Nursing Diagnosis 5: Deficient Knowledge related to the disease process, management strategies, and potential complications.

Goals/Expected Outcomes:

Patient will verbalize understanding of BPH, its management, and self-care measures before discharge.

Patient will demonstrate the ability to implement lifestyle modifications.

Nursing Interventions and Rationales:

Intervention	Rationale
Assess patient's baseline knowledge regarding BPH.	Helps tailor educational efforts to the patient's needs.
Provide verbal and written information about BPH, medication regimen, and surgical options (e.g., TURP).	Enhances patient understanding and encourages compliance.
Educate on the importance of medication adherence.	Consistent medication use is necessary for symptom control.
Teach strategies to manage symptoms, such as timed voiding and fluid management.	Empowers patient to take control of symptoms and maintain quality of life.
Warn about signs and symptoms that should prompt medical attention (e.g., inability to void, hematuria, fever).	Ensures early recognition of complications and timely intervention.

Evaluation

Patient verbalizes understanding of the disease and management plan.

Patients correctly describe when to seek medical help.

DISCUSSION

This case exemplifies the vital role nurses play in the perioperative and postoperative management of patients undergoing prostatectomy. Early detection and prompt surgical intervention significantly improve outcomes in BPH cases (Rass Weiler et al., 2006). Evidence highlights that vigilant postoperative monitoring, particularly for bleeding and infections, can reduce complications following prostate surgery (Speakman et al., 2015). Patient education, often underemphasized, was crucial here: consistent teaching on catheter care, hydration, and activity restrictions empowered the patient and potentially minimized readmission risk.

Moreover, incorporating structured frameworks like the Nursing Process (ADPIE) allowed the nursing team to provide individualized, evidence-based care, aligning with recommendations from professional organizations like the American Urological Association (AUA, 2010).

The case supports findings by Liao et al. (2012), suggesting that nursing interventions targeting psychological support and patient empowerment enhance postoperative recovery trajectories. However, a limitation of this case is its single-patient scope; larger observational studies are needed to generalize nursing strategies for post-prostatectomy care.

CONCLUSION

Effective nursing care throughout the surgical journey—from preoperative preparation to postoperative discharge—was central to the positive outcome in this case of BPH-managed prostatectomy. The patient's uneventful recovery highlights the importance of **holistic, patient-centered, evidence-based nursing interventions** in hospital surgical wards. Future efforts should emphasize early mobilization protocols, enhanced recovery after surgery (ERAS) guidelines, and structured patient education programs to further improve postoperative experiences and outcomes in prostatectomy patients. Hospital settings can benefit significantly from standardizing such nursing practices to optimize patient safety, satisfaction, and recovery.

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