

## Effect of Nursing Care Bundle on Patients Undergoing Prostatic Surgery Outcomes

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### Abstract

Extreme symptoms, including physical, spiritual, and psychosocial repercussions, might result from prostate surgery. A care bundle is a structured way of improving the process of care and patient outcomes. So the study was aimed to evaluate the effect of nursing care bundle on patients undergoing prostatic surgery outcomes. **Research design:** Quazi-experimental research design was used to conduct data of the current study. **Sample:** The study sample included a convenient sample of (40) patients, male adult patients undergoing prostatic surgery. **Setting:** The research was conducted at the Oncology Department and Urology Department at Beni-Suef University Hospital. Four tools used for data collection are Tool (I): The structured interview questionnaire, Tool (II): Pain visual analogue scale, Tool (III): Surgical site infection grading system and Tool (V): Nursing care bundle. **Results:** There were highly statistically significant differences between pre and post implementation of the nursing care bundle in the studied patients regarding knowledge, pain and surgical site infection ( $P = 0.001$ ). Moreover, there was a highly statistically significant difference between pre, post-operative and follow up after one month regarding items of nursing care bundle regarding deep breathing exercise and wound care. **Conclusion:** There were highly significant differences and improvements in outcomes of patients undergoing prostatic surgery after implementation of nursing care bundle. **Recommendations:** the study recommended that, brochures and simplified booklet should be available for patients undergoing prostatic surgery with basic instructions on how to live securely after surgery.

**Keywords:** Prostatic Surgery, Nursing Care Bundle & Outcomes.

### Introduction

The whole prostate gland and seminal vesicles are removed during a radical prostatectomy. Some lymph nodes in your pelvic will also be removed. This is done to prevent prostate cancer from spreading to other parts of body. There are two ways to do a radical prostatectomy. An open prostatectomy is a procedure that involves making an open incision (surgical cut). A laparoscope, a tube-like instrument with a camera, is another option. Surgeon will discuss the best surgery option for patients. When a normal prostate cell grows out of control, it becomes prostate cancer. Prostate cancer is often a slow-growing malignancy that does not spread outside of the prostate gland before being diagnosed (Adamu et al., 2018). Prostate cancer cells have a higher proclivity for dividing and spreading to other parts of the body. Prostate cancer frequently spreads to tissues near the prostate first, including the seminal vesicles and associated lymph nodes (Shamieh and Hui,

2015). Surgery options for men with metastatic prostate cancer have recently been established, however the promise of improving life should be considered against the men's quality of life, particularly in the presence of side effects (Holm et al., 2018).

A care bundle, also known as an evidence-based practice protocol, is a collection of therapy options for a certain symptom, procedure, or treatment (Chumpia et al., 2019). When applied uniformly to all patients, a care bundle increases the quality of care, allowing health care workers to more reliably give the best possible care for patients receiving therapies with inherent risks. A bundle is an organized approach to improving care procedures and patient outcomes: a short, straight forward group of evidence-based practices, usually three to five, that have been shown to improve patient outcomes when executed together and consistently (Deedwania, 2015).

A nurse will explain that the patient will most likely spend the first night after the procedure in the hospital and that may have a surgical drain put as part of the preoperative care bundle. If a drain is placed, patient will most likely have to take it home with her. Before being discharged, instructions will be given on how to care for drains. Following the procedure, the patient will have dietary and lifestyle modifications should form a part of effective adverse effect management, as keeping a healthy weight can help manage or reduce some of the adverse effects of treatments, such as urinary problems after surgery (**Huri et al., 2016**).

Moreover, men with a healthy weight are more likely to find medical treatments for erectile dysfunction effective, and some dietary modifications may help with gastrointestinal adverse effects such as diarrhea (**Henson et al., 2018**). Patients with chronic illness may experience extreme symptoms, including physical, spiritual, and psychosocial effects. Preventing and managing these symptoms while optimizing the quality of life throughout the dying process is the goal of palliative care (**Schroeder and Lorenz, 2018**). Factors important to seriously ill patients include adequately controlling pain and other symptoms, achieving a sense of self control, finding meaning in life, and relieving the care burdens of family and loved ones while strengthening and completing those same relationships (**Rome et al., 2017**). Nurses are a crucial component of palliative care teams. Overall, the need for palliative care has increased significantly (**Callahan et al., 2016**) and patient will be expected to perform exercises frequently. Lastly, reassure the patient that the post-operative pain will be addressed through analgesia and supportive measures (**Khan et al., 2015**).

Patient may resume usual diet as soon as she is able to drink fluids after waking up from anesthesia; nurse recommends 8 to 10 glasses of water each day, as well as lots of fruits and vegetables and reduced fat foods. The package includes perioperative antibiotic prophylaxis, hair removal before to surgery, perioperative normothermia, and operating room discipline. For the prevention of surgical site infection, those approaches are deemed evidence-based (**Bayraktar, 2015**).

Deep breathing exercises, total body muscle relaxation, and mental relaxation techniques are all examples of relaxation techniques after surgery; is an important part of recovery after surgery to improve overall well-being. These exercises are to be done once daily, and each set of exercises is to be repeated 5times (**National Health Insurance Service, 2018**).

Post-surgery discharge instructions: avoid any activity that causes pain, tugging, or tightness in the affected upper extremity. Use the non-affected side to help you stand, don't sit for more than two or three hours at a time, go for short frequent walks, don't drive while on pain medication, and keep the incision clean and dry with no creams or lotions. As soon as feasible, schedule a follow-up visit with the surgeon. Oral temperature more than (38.8° C) for more than 24 hours, redness or drainage from the wound with an odor, bleeding from incisions(s), excessive swelling, nausea and vomiting, pain that does not respond to medication are all indications and symptoms should report to the surgeon (**Huri et al., 2016**).

#### Significance of the study:

Nursing care bundle give nursing care to patients, (for example, symptom, pain, and wound care) and (e.g., psychological assistance support, and supply of information) with the goal of enhancing their life and alleviation of distress (**Sekse et al., 2018**). In accordance with WHO guidelines, there is an increase in the global burden of chronic serious illnesses, which leads to a decline in patient quality of life, medication adherence, and other issues. Previous research investigations have revealed that palliative care practice is lacking in research. In fact, the WHO (2015) highlighted a key impediment to providing safe and optimal care services. Because of this, attempts have been launched to advocate care as a necessity for nursing care and training (**Balicas, 2018**). Hopefully, the findings of this study will provide evidence-based data that will be valuable in the practice and research of nurses and other health care professionals. Furthermore, the outcomes of this study may aid in improving the quality of service delivered to this patient group, which will be reflected in their life.

**Aim of the study:**

The aim of this study was to evaluate the effect of nursing care bundle on patients undergoing prostatic surgery outcomes. This aim attained through:

- Assess patient's knowledge related to prostatic surgery
- Assess patient's pain level associated with prostatic surgery
- Assess patient's risk of surgical site infection associated with prostatic surgery
- Evaluate the effect of nursing care bundle on patient's knowledge, pain level, and risk of surgical site infection related to prostatic surgery.

**Research hypothesis:**

Nursing care bundle has positive effect on patient's knowledge, pain level, and risk of surgical site infection related to prostatic surgery.

**Research design:**

The data for this study was collected using Quazi-experimental research design will be subjected to a therapy (intervention) in this study, and observations will be made once the treatment is implemented.

**Setting:**

The research was conducted at the Oncology Department and Urology Departments at Beni-Suef University Hospital

**Subjects:**

The study sample included a convenient sample of (40) patients, male adult patients undergoing prostatic surgery

**Sample size:**

This sample was selected by using the following equation according to (Steven and Thompson, 2012):

$$n = \frac{N \times p(1-p)}{\left[ N-1 \times (d^2 \div z^2) \right] + p(1-p)}$$

N = total patient population size of 40 who attended the previous selected settings

Z= confidence levels is 0.95 and is equal to 1.96 D = the error ratio is = 0.05

P = the property availability ratio and neutral = 0.50 Note: selecting patient depended on the decreasing number of patients undergoing prostatic surgery.

**Inclusion criteria:**

- 21- 60 years of age
- No anesthetic contraindications
- Non-smokers
- No systemic disorders that could affect the prostatic surgery such as diabetes mellitus
- Accept to participate in the study

**Tools of data collection:**

Four tools were used for data collection of the study. These tools were developed by the researcher after reviewing the related literature and research studies

**The tool I: The structured interview questionnaire:**

It was developed by the researchers after reviewing the related literature and research studies. It included three parts: (Huri et al., 2015 and Weisbord et al., 2004).

**Part (1): Demographic data;** it included information related to patient's age, level of education, and occupation.

**Part (2): Clinical data;** it included information related to duration of the disease, length of hospital stay and measurements of height, weight and BMI.

**Part (3): Pre &post-test patient knowledge assessment questionnaire:** it included information related to definition, indications, nutrition, and postoperative exercise, wound care, complications and follow up.

**Total scoring system:**

Patients' knowledge was categorized into the following categories based on the total score of the interview questionnaire:

- Satisfactory more than 60%

- Unsatisfactory less than 60%

### **Tool (II): Pain visual analogue scale (PVAS):**

Pain visual analogue scale (PVAS); is a measurement instrument created by (Gould et al., 2001) that attempts to assess a quality or attitude that is thought to range throughout a continuum of values and is difficult to measure directly. It assesses the severity of wound pain. It's graduated on a 10-centimeter line with anchors at the zero and ten points, indicating (no pain at all) to ten (worst pain) (Gould et al., 2001).

0 =No pain

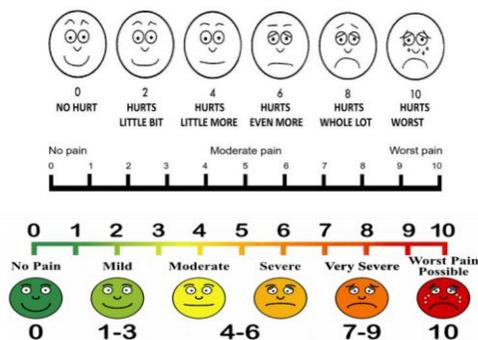
2=Discomfort or (mild pain)

5=Pain that interrupts your ability to relax and rest (moderate pain)

7=Pain that wakes you up from a sound sleep (severe pain)

10=Excruciating pain

Pain visual analogue scale scoring system: Each category was observed, categorized, and rated as yes = 1 or no = 0 based on the pain visual analogue scale score.



**Tool (III): Surgical site infection grading system;** although there is no standardized system for classifying surgical site infections. The Checketts-Otterburn classification is commonly used and provides valuable information regarding treatment.

### **Scoring system of tool III:**

Each sign and symptom was observed, categorized, and evaluated as present = 1 or not present = 0 using the total score of the surgical

site infection grading system. Surgical site infections are divided into two categories: minor (Grades 1–3) and major (Grades 4–6), according to this system (Checketts et al., 2000).

### **Tool (V): Nursing care bundle:**

Care bundles are collections of evidence-based practice treatments that emerged in North America. Care bundles are founded on the idea that grouping many evidence-based interventions into a single procedure improves patient outcomes (Resar et al., 2005), it included two parts:

**Part (1): Preoperative care bundle (Sekse et al., 2018);** it is developed by the researcher based on literature review; it included information related to physical preparation, patient education (diet, mobility, exercises and medication).

**Part (2): Postoperative follow up observational checklist until patient discharge and follow up (Huri et al., 2015);** it is developed by the researcher based on literature review, it included information related to pain management, surgical site infection, and relaxation exercise.

### **Operational design:**

The study was carried out on three phases (The preparatory phase, Implementation phase, and evaluation phase):

### **The preparatory phase (assessment and planning phase):**

The researchers developed the study tools after extensive review of relevant literature of the current study, local & international, using text books, articles, and scientific journals.

### **Content validity and reliability:**

The content validity of study tools were checked by 5expert professors in field of Medical- Surgical Nursing they reviewed the instruments for clarity, relevance, comprehensiveness, understanding, applicability and easiness for administrative minor modifications that required. Modifications were carried out accordingly and then the tools were designed in their final format and tested for reliability. As for the reliability tool (III) was confirmed for consistency by Cronbach's alpha

coefficient ( $\alpha=0.88$ ).

### **A pilot study:**

A pilot study was conducted on 10% (4 patients) of the total sample to test clarity and feasibility of the research process. Modifications were carried out to develop the final form of the tools. Patients who were in the pilot study were excluded from the research study.

### **Administrative design:**

Administrative permission was obtained through an issued letter from the Dean of Faculty of Nursing, Beni-Suef University to the Directors of the Oncology Department and Urology Departments at Beni-Suef University Hospital to achieve this study.

### **Ethical Considerations:**

After a written approval of the research proposal by the Research Ethics Committee of the Faculty of Nursing, Beni-Suef University is obtained; an official permission was taken from hospital administrators to conduct the study. The purpose and nature of the study as well as the importance was explained to the potential participants who meet the inclusion criteria. The investigator emphasized that anonymity and confidentiality were assured through coding the data and the data wasn't reused in another research without their acceptance. Signed consent was obtained from patients who accepted to be included in the study. Participants were assured that participation in this study was voluntary and they have the right to withdraw from the study at any time without any penalty.

Potential participants who met the inclusion requirements were told about the study's objective and nature, as well as its significance. The investigator noted that the data was coded to ensure anonymity and confidentiality, and that the data was not repeated in another study without their permission. Patients who agreed to participate in the study had to write a consent form. Participants were promised that their participation in the study was entirely voluntary, and that they could leave at any time without consequence.

### **Implementation phase:**

The nursing care bundle had been implemented for the pre-operative group in term

of sessions. These sessions aimed to evaluate the effect of nursing care bundle on patients undergoing prostatic surgery outcomes. The nursing care bundle was developed by the researchers based on the review of relevant literature and available resources.

- Data were collected from the previous selected settings for 6 months during the period from July 2020 to December 2020.
- All available patients were enrolled in the study, which was conducted during morning shifts and over the phone. Initial interview the researchers introduced herself to initiate communication, explained the nature and purpose of the study to the selected patients who are willing to participate in the study and filled out the questionnaire to assess the patient's demographic and clinical data.
- After assessing the patients with a structured interviewing questionnaire sheet tool that the researcher filled up to measure the patients' general knowledge about prostatic operations. The researcher filled out tool (II) to determine of pain level.
- The researchers created a booklet with easy-to-understand text, diagrams, and images. Researchers created it based on patient needs and relevant literature. It included the entire nursing care bundle's contents.

### **Designed manual booklet:**

**Title:** Knowledge for patients with prostatic surgery

### **Outlines of the booklet:**

- 1- Definition
  - 2- Indications
  - 3- Nutrition
  - 4- Physical preparation during preoperative
  - 5- Patient education (diet, mobility, exercises and medication)
  - 6- Postoperative exercise
  - 7- Wound care
  - 8- Complications, surgical site infection, and follow up,
- The patients were separated into small groups, each containing three people (2-4 patients).
  - The nursing education was delivered in three sessions, each lasting around 20 to 30 minutes and including 10 minutes for

discussion and feedback.

- Each of the following interventions normally begins with a briefing in simple Arabic regarding what was discussed in the prior intervention.
- Each session closed with a recap of the previous session's content as well as the goals of new topics.
- To ensure that the patients understood what was being taught, feedback and reinforcement were given based on their needs. A copy of the teaching material (booklet) is given to each patient in the preoperative group.

**The first session:** Included; information about prostatic surgery, including definitions, indications, and contraindications.

**The second session:** Patients' preoperative instructions, laboratory examinations, and postoperative problems were all included in the theoretical section of the nursing care bundle.

**The third session:** Preoperative planning, postoperative food and exercise, pain management, surgical site infection, pre- and post-operative care package items, and discharge instructions were all included. Before discharge the participants, the investigator stressed the significance of a follow-up visit and set up a time and place for it.

#### **Evaluation phase (follow up phase):**

In the evaluation phase after implementation the patient knowledge and practices have been evaluated by the researchers. The patients were evaluated after one month from 1<sup>st</sup> interview post implementation of the nursing care bundle using the same tools used in the pretest.

#### **Statistical analysis:**

The data were tested for normality using the Anderson-Darling test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by number and percent (N, %), where continuous variables described by mean and standard deviation (Mean, SD). Chi-square test and fisher exact test used to compare between categorical variables where compare between

continuous variables by independent t-test. A two-tailed  $p < 0.05$  was considered statistically significant. All analyses were performed with the IBM SPSS 20.0 software.

#### **Limitations of the study:**

1. The generalizability of the investigation findings is limited because the sample was drawn from a single geographic location in the Arab Republic of Egypt.
2. There was a lack of patient flow.

#### **Results:**

**Table (1):** demonstrated that (63%) of the studied patients their age were  $> 30$  years old. All of the studied patient (100%) were educated and were living in urban and working. As regard duration of the disease per month, the mean score of duration ( $14.3 \pm 16.6$ ) and 64% of patient stay in the hospital from one day less than three days. Finally, their mean score of body mass index of the studied patients was ( $32.40 \pm 2.87$ ).

**Table (2):** illustrated that there was a highly statistically significant difference for the studied patients regarding knowledge pre/post one month after implementation of the nursing care bundle ( $P = 0.001^{**}$ )

**Table (3):** Pre-implementation of nursing care bundle, (91%) of patients had unsatisfactory knowledge level compared to (100%) of patients had satisfactory knowledge level after implementation of nursing care bundle with highly statistically significant difference regarding total patients knowledge level pre and post implementation of the nursing care bundle ( $P = 0.001^{**}$ ).

**Table (4):** Portrayed Pain Visual Analogue Scale, and it was observed that (61%) of studied patients immediate post-operative suffered from moderate pain and after one month (57%) of studied patients suffered from mild pain with highly statistically significant difference regarded assessment of Pain Visual Analogue Scale ( $P = 0.001^{**}$ ).

**Table (5):** demonstrated that; there was a highly statistically significant difference between pre, post-operative and follow up after one month regarding items of nursing care bundle regarding deep breathing exercise and

wound care ( $P=0.001^{**}$ ).

**Table (6):** Showed the surgical site Infection; it was observed that (34 %) of the studied patients post-operative was in grade 1 (low risk) of surgical site infection .While (66 %) of the studied patients after one month haven't any risk of surgical site infection with statistically significant difference regarded

surgical site infection, post-operative and after one month after implementation of nursing care bundle.

**Table (7):** shows that there was highly significance difference between Postoperative and after one month after implementation of nursing care bundle regarding complications for prostatic surgery ( $P=0.001^{**}$ ).

**Table (1):** Frequency and Percentage distribution of the studied patient regarding their demographic and clinical data (n=40)

Variables	N	%
<b>Age</b>		
< 30yrs	15	37
> 30yrs	25	63
<b>Educational level</b>		
Educated	40	100.0
Non educated	0	0.0
<b>Residence</b>		
Urban	40	100.0
Rural	0	0.0
<b>Occupation</b>		
Working	40	100.0
Not working	0	0
<b>Duration of the disease per month</b>		
Mean±SD	14.3±16.6	
Range	2–60	
<b>Length of hospital stay</b>		
One day less than three days	26	64
More than three days	14	36
<b>Body mass index</b>	32.40±2.87	

**Table (2):** Comparison between pre and post implementation of nursing care bundle regarding patients knowledge level (n=40)

Knowledge items	Pre-implementation				Post-implementation				P.value
	Know		Don't know		Know		Don't know		
	N	%	N	%	N	%	N	%	
<b>Knowledge about prostatic surgery</b>									
Know the meaning of prostatic surgery	2	4	38	96	40	100	0	0.00	0.001**
Do you know risk factors of prostatic Surgery	3	7	37	93	40	100	0	0.00	0.001**
Do you know indications of prostatic Surgery	0	0.0	40	100	40	100	0	0.00	0.001**
Do you know contraindications of Prostatic surgery	0	0.0	40	100	40	100	0	0.00	0.001**
Do you know complications of prostatic surgery	0	0.0	40	100	40	100	0	0.00	0.001**

Do you know the necessary preparations before prostatic surgery	2	4	38	96	40	100	0	0.00	0.001**
Are you afraid to undergo the Operation	6	14	34	86	1	3	39	97	0.001**
If yes from anesthesia	40	100	0	0.0	1	3	39	97	0.001**
<b>Knowledge about relaxation exercises:</b>									
Do you know that exercises are Important after prostatic surgery	30	74	10	26	36	90.0	4	10.0	0.001**
Do you know types of exercises done postoperatively	0	0.00	40	100	39	97	1	3	0.001**
Do you know the deep breathing exercise?	21	53	19	47	28	70.0	12	30.0	0.001**
<b>Knowledge about Nutrition</b>									
What is the type of a good diet that must be eaten post-surgery to fasten recover	2	6	38	94	40	100	0	0.00	0.001**
<b>Knowledge about medication</b>									
Do you know what medications you should take after the operation	3	7	37	93	39	97	1	3	0.001**
<b>Knowledge about wound care</b>									
Do you know care of your wound after discharge from hospital?	32	80.0	8	20.0	40	100.0	0	0.00	0.001**
What are the symptoms and signs of infection that should be reported To your physician?	14	34	26	66	29	72.0	11	28	0.001**
<b>Knowledge about follow up:</b>									
Do you know first follow up visit?	0	0.00	40	100	40	100	0	0.00	0.001**
Do you know the instructions to be followed after discharge from the Hospital	1	3	39	97	40	100	0	0.00	0.001**

Chi-Square with  $P.value=0.05 > \text{not significance}$   $p < .05 * \text{significance}$   $p = 0.001 ** \text{highly significance}$

**Table 3:** Comparison between pre and post implementation nursing care bundle regarding total patients knowledge level (n=40):

Patients knowledge level	Pre		Post	
	No	%	No	%
Satisfactory	4	9.0	40	100.0
Unsatisfactory	36	91.0	0	0.00
P.value	48.089		-0.001	
Mean±SD	1.62±1.76		10.00±0.00	
	0.001			

Chi-Square and independent t-test with  $P=0.05 > \text{not significance}$   $p < .05 * \text{significance}$   $p = 0.001 ** \text{highly significance}$

**Table (4):** Assessment of pain for patient's immediate post-operative and after one month using visual Analogue Scale (n=40):

Follow up	Pain				X <sup>2</sup>	P.value
	mild	Moderate	Sever	Worst pain		
	N %	N %	N %	N %		
Immediate post-operative	13(32%)	24(61%)	2(4 %)	1 (3)	20.087 <sup>a</sup>	0.001
After one month	23(57%)	17(43%)	0(0.0)	0.0		

Fisher test  $p = 0.001 ** \text{highly significance}$

**Table (5):** Comparison between nursing care bundle regarding deep breathing exercise and wound care pre, post-operative and after one month (n=40):

Items	Preoperative						Post-operative						Follow up after one month						X2	P.value
	Done				Not done		Done				Not done		Done				Not Done			
	Correct		Incorrect				Correct		Incorrect				Correct		Incorrect					
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
Deep Breathing exercise	1	2	11	28	28	70	26	65	11	27	3	8	24	60	12	30	4	10	43.07 0.001**	
Wound care	0	0	0	0	0	0	33	82	6	15	1	3	31	78	8	19	1	3	53.06 0.001**	

Chi-Square with  $P=0.05 >$  not significance  $p < .05$ \* significance  $p=0.001$ \*\* highly significance

**Table (6):** Comparison between post-operative and after one month regarding Surgical Site Infection) (n=40):

Grades	Follow-up	Present		Not present		X2	P.value
		n	%	n	%		
Grade1(Low risk)	Postoperative	14	34	26	66	4.276	.037*
	After one month	2	5	38	95		
Grade 2 (Co-morbid)	Postoperative	0	0.0	0	0.0	0	
	After one month	0	0.0	0	0.0	0	
Grade 3 (Potentially contaminated)	Postoperative	0	0.0	0	0.0	0	
	After one month	0	0.0	0	0.0	0	
Grade 4 (Infected)	Postoperative	0	0.0	0	0.0	0	
	After one month	0	0.0	0	0.0	0	

Chi-Square Tests  $P=0.05 >$  not significance  $p < .05$ \*significance  $p=0.001$ \*\* highly significance

**Table (7):** Comparison between Postoperative and after one month regarding complications for prostatic surgery (n=40):

Postoperative complications	Follow up	Present		Not present		X2	P.value
		N	%	N	%		
Wound infection	Postoperative	13	33	27	67	4.345	.038
	After one month	3	8	33	82%		
Erectile dysfunction	Postoperative	40	100.0	40	100.0	----	---
	After one month	40	100.0	40	100.0		
Urinary incontinence	Postoperative	40	100.0	40	100.0	---	---
	After one month	40	100.0	40	100.0		
stress incontinence	Postoperative	40	100.0	40	100.0	-----	-----
	After one month	40	100.0	40	100.0		
Overflow incontinence	Postoperative	40	100.0	40	100.0	----	----
	After one month	40	100.0	40	100.0		
Postoperative pain	Postoperative	40	100.0	0	0.0	17.324	0.001
	After one month	21	52	19	48		

Chi-Square Tests  $P=0.05 >$  not significance  $p < .05$ \*significance  $p=0.001$ \*\* highly significance

**Discussion:**

Prostate cancer is a life-threatening illness that required surgery. Hence, nursing care

bundle may be beneficial to this group. It can improve their life, particularly in the presence of adverse effects (Holm et al., 2018). Hence, the current study was aimed to evaluate the

effect of nursing care bundle on patients undergoing prostatic surgery outcomes.

The result in the present study revealed that, (63%) of the studied patients their age were > 30years old. This may reflected that the prostate cancer is most common among old age men. This result is supported by **Castillejos Molina & Gabilondo-Navarro, (2016)**, who found that in their study about prostate cancer (36.3%) of cases are diagnosed during the sixth decade, between 50 and 60 years. Also, the results of the present study are agrees with **Cal et al., (2018)** who conducted a study about "Needs of patients with prostate cancer for home care after surgery" and reported that; the average age of the patients admitted for prostate surgery in their study was (55.22±8.13).

The present study revealed that all of the studied patients were worked. These results are not in accordance with **Huen et al., (2019)**, who conducted a study titled with "Outcomes of an integrated urology care clinic for patients with advanced urological cancers: maintenance of quality of life and satisfaction and high rate of hospice utilization through end of life" and found that most of the studied patients were not worked.

The present study revealed that all of the studied patients were educated. These results are not in the same line with **Cal et al., (2018)**, who found that less than half of the studied patients had intermediate level of education.

The result in the present study revealed that, there was a highly statistically significant difference for the studied patients regarding knowledge and a significant improvement in the knowledge score levels post one month after implementation of the nursing care bundle (P =0.001). This result reflected the positive effects of nursing care bundle implementation. Also, this may attribute to that all patients are educated and had the desire to acquire the guidelines about healthy life style. This finding is in the same line of **Steiner et al., (2016)** who studied "Trends in prostate surgery in Hospital Inpatient and Ambulatory Settings" and they stated that the nursing care bundle is recommended pre surgery as it is most beneficial and cost effective management for motivated men with prostate surgery.

The present study revealed that pre-implementation of nursing care bundle, majority of patients had unsatisfactory knowledge level compared to all of patients had satisfactory knowledge level after implementation of nursing care bundle with highly statistically significant difference regarding total patients knowledge level pre and post implementation of the nursing care bundle (P =0.001). These results are matched with **Ministry of Health and Welfare, (2018)** who mentioned that the majority of post test prostate surgery men answered all questions about prostate surgery than pre test group and there was statistically significant difference as regarded pre and post test total score for level of knowledge about prostatic surgery (P =0.001). From the researchers' point of view that, The patient's understanding was increased as a result of presenting information regarding prostatic surgery and answering all of the patient's inquiries.

The present study indicated that that (61%) of studied patients immediate post-operative suffered from moderate pain and after one month (57%) of studied patients suffered from mild pain with highly statistically significant difference regarded assessment of Pain Visual Analogue Scale (P =0.001). This result are not similar to results of the study conducted by **Hong et al., (2018)** who suggested that, after one month of follow up the majority of postoperative sample suffered from severe pain.

The present study indicated that, there was a highly statistically significant difference between pre and post-operative and follow up after one month regarding items of nursing care bundle of regarding breathing exercise and the majority of sample didn't do the breathing exercise but after implementation nursing care bundle of patient done breathing exercise correctly. This is reflected the indication of introducing the nursing care bundle to those patients. This result is supported with **Cheng et al., (2017)**, who suggested that, the majority of sample did the breathing exercise correctly after implementation of nursing care bundle.

The present study indicated that; there was a highly statistically significant difference between pre and post-operative and follow up

after one month regarding items of nursing care bundle of regarding wound care and most of the patients did the steps correctly after one month of nursing care bundle implementation. These results are similar to the results of a study conducted by **Stuiver et al., (2015)**, who mentioned that the majority of patients did the steps of wound care correctly after implementation of nursing care bundle.

The present study showed that (34 %) of the studied patients post-operative was in grade 1 (low risk) of surgical site infection. While (66 %) of the studied patients after one month haven't any risk of surgical site infection with statistically significant difference regarded surgical site infection post-operative and after one month after implementation of nursing care bundle. This result agrees with **Bayraktar et al., (2015)**, who studied and found that the importance of implementation of elements of care bundle to prevent postoperative infection as perioperative antibiotic prophylaxis, hair removal pre surgery, perioperative normothermia and discipline in the operating room. From the researchers' point of view, surgical site infection was decreased and prevented due to implementation of nursing care bundle,

The results of the present study indicated that there was highly significance difference between Postoperative and after one month after implementation of nursing care bundle regarding complications for prostatic surgery ( $P = 0.001$ ). This result reflected the postoperative complications was decreased and prevented post implementation of nursing care bundle. These results are in the same line of **Zhou et al., (2016)**, who reported that; Preoperative exercise aids fast postoperative recovery following prostatic surgery by improving inspiratory muscle endurance, functional mobility, reducing postoperative discomfort and anxiety, and improving quality of life. Patients who are given workout advice booklets had a lower risk of problems after surgery.

The usefulness of establishing a nursing care bundle in enhancing postoperative outcomes for patients undergoing prostatic surgery was demonstrated in this study. This finding supports the findings of **Potter et al.**

**(2016)**, who found that a postoperative care bundle improved postoperative complications, pain management, and surgical site infection. According to the study, the deployment of a nursing care package via a written booklet improved patient outcomes, enhanced patient satisfaction, and altered quality of life.

### **Conclusion:**

In light of the current study results, it can be concluded that there were highly significant differences and improvements in outcomes of patients undergoing prostatic surgery after implementation of nursing care bundle.

### **Recommendations**

**Based on results of the present study, the following can be recommended:**

#### **I. For patients:**

- To improve postoperative results, patients who have had prostatic surgery require additional verbal and written education regarding the care package of food and exercise.
- Pamphlets and easy picture booklets for illiterate patients should be available to clarify aspects of the care bundle that patients should follow following prostatic surgery.
- Tell the patients how important it is to follow up with them on a frequent basis.
- To improve the patient's comprehension about prostatic surgery, provide them advice on how to get the most out of their education and information.
- Preparation and communication should begin as soon as the surgeon determines that surgery is necessary. Patients must see oncologists and urologists 2 weeks before surgery for preoperative evaluation; to prepare them and provide information in the form of pamphlets, films, and one-on-one counseling sessions.

#### **II. For future research future study:**

- Separate investigations of prostatic surgery are important because they will lead to more effective and preventive

methods in the future.

- To determine the prevalence of the problem throughout Egypt, a survey of the incidence of problems following prostatic surgery should be conducted.
- To gain generalized; it is advised that the current work be replicated on a bigger probability sample.

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