

Effectiveness of Sterile Versus Clean Catheter Care in Preventing the Catheter Associated Urinary Tract Infection (CAUTI) among Catheterized Male Patient

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Abstract: *The present study was conducted to assess the effectiveness of Sterile Versus Clean Catheter Care in Preventing the Catheter Associated Urinary Tract Infection (CAUTI) among Catheterized Male Patient. The study design adopted was comparative experimental design. Non Probability Convenient sampling technique was used to draw the samples for the study. The effective sample size was 60. The study findings revealed that both sterile and clean methods were help to prevent the CAUTI, from which clean method was cost effective. The study also reveals there was no significant association between sociodemographic variables like age, education, occupation, religion, area of residence with post test level of symptoms in study group-I and II. There was significant association between selected clinical variables like antibiotics administered, previous history of UTI, co morbidity and reason for catheterization with post-test level symptoms in group-I.*

Keywords: Catheter care, Catheter associated urinary tract infection

1. Introduction

Urinary tract infection (UTI) is a condition in which one or more parts of the urinary system (the kidneys, ureters, bladder, and urethra) become infected. It is estimated that 150 million patients are diagnosed with UTI yearly, resulting in at least 6 billion in health care expenditures. In case of CAUTI, 7 million patients are affected per year. Catheter-related urinary tract infection (CUTI) occurs because urethral catheters inoculate organisms into the bladder and promote colonization by providing a surface for bacterial adhesion and causing mucosal irritation. The presence of a urinary catheter is the most important risk factor for bacteriuria.

1.1 Statement of the Problem

A comparative study to assess the effectiveness of sterile versus clean catheter care in preventing the Catheter associated urinary tract infection (CAUTI) among catheterized male patients in selected hospitals at Kanyakumari district”.

1.2 Objectives

- 1) To compare the effectiveness of sterile versus clean catheter care to prevent CAUTI among catheterized male patients in study group-I and II.
- 2) To infer the cost of sterile versus clean catheter care in study group-I and II.
- 3) To associate the post interventional level of symptoms among catheterized male patients with selected socio demographic and clinical variables.

1.3 Operational definitions

1.3.1 Effectiveness

This refers to the ability of sterile and clean technique catheter care in order to prevent urinary tract infection among catheterized male patients.

1.3.2 Sterile catheter care

In this study, sterile catheter care refers to the use of povidine iodine solution (10%) and sterile articles for cleaning the catheter and insertion site.

1.3.3 Clean catheter care

In this study, clean catheter care refers to the use of soap, warm water and clean articles for cleaning the catheter and insertion site.

1.3.4 CAUTI

In the present study CAUTI refers to the occurrence of infection in the urinary tract among patients with indwelling urinary catheter which will be measured by means of bio physiological variables and biochemical variables (microscopic examination).

1.3.4.1 Symptoms of CAUTI

In the present study, CAUTI symptoms include elevated body temperature, leakage of urine around the catheter, weakness, body pain, chills/shivering, bad odour of urine, redness around the urethral meatus, erosion of skin, bladder spasm, discharge from the urethra, Swelling around the urethral meatus, cloudy urine, catheter obstruction, hematuria, change in colour of urine.

1.3.4.2 Catheterized male patients

In the present study, it refers to male patients who are admitted in selected hospitals with indwelling urinary catheter at least for 5 days to drain the urine from the urinary bladder.

Table 1: Data pertaining to frequency and percentage distribution of pre -test and post -test level of symptoms (using bio physiological parameters) among catheterized male patients in study group –I.

H₁: There is a significant difference between pre and post interventional level of symptoms

Parameters	Level of UTI	Study group-I			
		pre-test		post-test	
		f	%	f	%
Bio-physiological	Absent from UTI	30	100	26	86.67
	Mild	0	0	3	10.00
	Moderate	0	0	1	3.33
	Severe	0	0	0	0
		30	100	30	100

Table 2: Data pertaining to frequency and percentage distribution of pre test and post test level of symptoms (using bio physiological parameters) among catheterized male patients in study group-II

Parameters	Level of UTI	Study group-II			
		pre-test		post-test	
		f	%	f	%
Bio-physiological	Absent from UTI	30	100	22	73.33
	Mild	0	0	5	16.67
	Moderate	0	0	3	10.00
	Severe	0	0	0	0
		30	100	30	100

Table 3: Data pertaining to frequency and percentage distribution of pre - test and post - test level of symptoms (using bio chemical parameters) among catheterized male patients in study group-II

Parameters	Level of UTI	Study group-II			
		pre-test		post-test	
		f	%	f	%
Bio-physiological	Absent from UTI	30	100	22	73.33
	Mild	0	0	5	16.67
	Moderate	0	0	3	10.00
	Severe	0	0	0	0
		30	100	30	100

Table 4: Data pertaining to effect of sterile versus clean catheter care in preventing the CAUTI among catheterized male patients in study group-I and II

H₂: There is a significant difference between sterile versus clean catheter care to prevent CAUTI among catheterized male patients in study group-I and II

Level of UTI	Sterile Method	Clean Method	t(2)	Pdf(2)
Absent from UTI	26	22		
Mild	3	5		
Moderate	1	3	1.83	0.39
Severe	0	0		
Total	30	30		

Table 5: Data pertaining to the cost effectiveness of sterile versus clean catheter care method in preventing CAUTI among catheterized male patients in study group-I and II

H₃: There is a significant difference in cost between sterile and clean catheter care technique

Sterile Method Mean± SD(Rs)	Clean Method Mean± SD(Rs)	t-test	P df(58)
63.36± 1.35	16.73 ± 0.44	46.05	0.00

2. Major Findings

- The study findings revealed that both sterile and clean methods were help to prevent the CAUTI, from which clean method is cost effective.
- The study also reveals there is no significant association between socio demographic variables like age, education, occupation, religion, area of residence with post test level of symptoms in study group-I and II.
- There is significant association between selected clinical variables like antibiotics administered, previous history of UTI, co morbidity and reason for catheterization with post test level of symptoms in group-I.

3. Conclusion

This study findings shown that both sterile and clean methods were help to prevent the CAUTI, from which clean method is cost effective method to prevent CAUTI.

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