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A Descriptive Study to Assess the Audit Programme for Catheter Related Urinary Tract Infection

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Abstract: Aim and objectives: *To assess the audit programme for catheter-related urinary tract infection*
Methodology: *Descriptive research design was adopted in order to assess the catheter-related urinary tract infection.*
The dependent variable was individual knowledge of urinary catheter handling with aseptic manner and catheter care done daily.
The study was conducted in Ganga Hospital, with facilities of 650 beds at Coimbatore, selected by a convenient sampling technique.
Result: *We have conducted an audit of 25 cases with urinary catheters in ICU Ganga Hospital during the months of January 2023 to March 2023. The aim of our time is to assess the sterile care given to the patient who is catheterised, how long it remains in the patient, and the type and size of the catheter.*
The majority of the subjects came into the review of the need for urinary catheters because the patient had undergone an invasive procedure (48%). 24% of urinary catheter insertions are for monitoring the urine out of the patient. Only 4% of urinary catheter insertions are done for unconsciousness and spinal anaesthesia.
Based on the type of urinary catheter used in ICU, the majority of patients used Foley's catheters (100%). Based on the size of urinary catheters, 64% are using 14-size urinary catheters, 24% are using 16-size urinary catheters, and the remaining 12% are using 18-size, 16-size and 12-size urinary catheters.
Based on this audit, the maximum duration of urinary catheterisation remained at 05 days; only 4% of the patients had 25 days of continuous catheterisation present in the ICU. In a case of sterile care, 97% of our staff are well knowledgeable and follow all the aseptic techniques while handling urinary catheters.
On the basis of this audit only 4% of patients in the ICU with a duration of 2 months of our audit had urinary tract infections.
Conclusion: *The most valuable thing in this audit that I noticed is the knowledge of staff about the catheter care given to the patient (96.5%). Based on this audit, the CAUTI in Ganga Hospital ICU is much lower.*

Key Words*: causes of catheter-related infection, size of catheter, indication, how long the catheter remains, and measures to prevent the CAUTI.*

1. INTRODUCTION :

A urinary catheter is a hollow, partially flexible tube that collects urine from the bladder and leads to a drainage bag.(1)

In urinary catheterization, a latex, polyurethane, or silicone tube known as a urinary catheter is inserted into the bladder through the urethra to allow urine to drain from the bladder for collection. It may also be used to inject liquids used for treatment or diagnosis of bladder conditions.(10)

Urinary catheters may come in different types and types: Rubber, Silicon, Condom Plastic(2)

Urinary tract infection (UTI) is one of the most common healthcare–associated infections (HAIs), representing up to 40% of all HAIs. Most health care–associated UTIs (70%) are associated with urinary catheters, but as many as 95% of UTIs in intensive care units (ICUs) are associated with catheters.4,5.9 Approximately 20% of patients have a urinary catheter placed at some time during their hospital stay, especially in ICUs, in long-term care facilities, and increasingly in home care settings.

The Centers for Disease Control and Prevention (CDC) estimates that up to 139,000 catheter-associated UTIs (9)

A catheter may be necessary in cases when you can't empty the bladder. The urinary catheter may also be used for older adults who are bedridden and those with a permanent injury are severe illnesses.

Urinary catheters are the leading cause of healthcare-associated Urinary Tract Infection (UTI). Therefore, it's important to routinely clean the catheter to prevent infection.(6)

Introduction A urinary tract infection is an infection involving any part of the urinary system, including the urethra, bladder, ureter and kidney. UTIs are the most common type of healthcare-associated infection.(4)

Cloudy urine, blood in urine, chills ,fever , pain or discomfort in the stomach or lower back.(8)

Bacteria or fungi may enter the urinary tract via the catheter. This could happen upon insertion. If the drainage bag is not emptied enough, contamination of bacteria forms bowel movement, irregular cleaning, and if urine from the catheter bag flows backward into the bladder.(7)

1.1 STATEMENT OF THE STUDY

- To assess whether the urine catheter is handled in an aseptic manner
- To assess whether the staff do catheter care daily
- To know how long the catheter remains
- To know why the patient is catheterized
- To know whether there are any Urinary Tract Infections
- Adhere to the infection control precaution simultaneously drawn urine routine and urine culture
- It also helps to find out if any infection is present or not.

1.2 OBJECTIVES

- To discuss infection
- To discuss the duration of catheter present
- To discuss the need for a catheter
- To discuss the types of catheter
- To discuss the catheter care given by staff

2. SETTINGS OF STUDY

The study was conducted in Ganga Hospital with facilities of 650 beds in Coimbatore.

The trauma and surgical intensive care unit consists of 21 beds with equipped facilities.

2.1 POPULATION OF STUDY

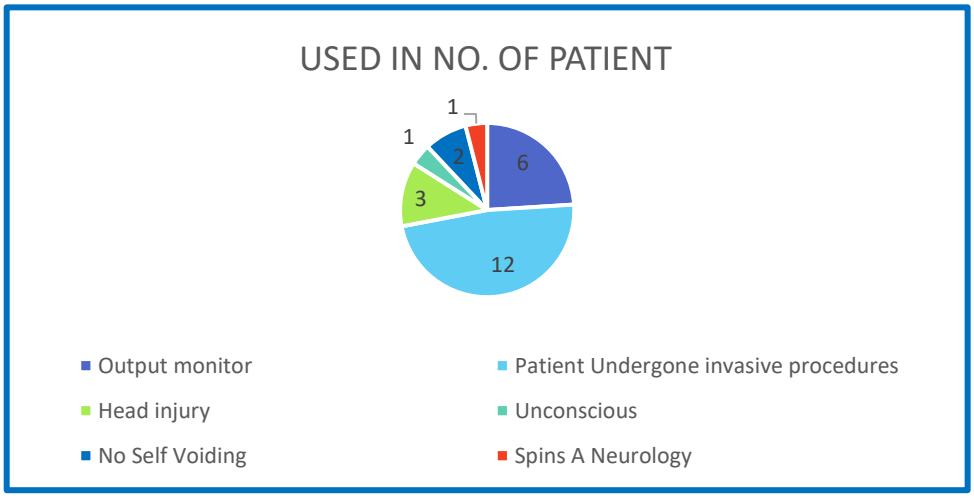
The population for the study includes where catheterized patients include face-mask, incubated and tracheotomy cases over 2 months from February 23 to April 23.

2.2 DATA COLLECTION TOOL

SECTION – A

Description of patient based on review of Need of Catheter.

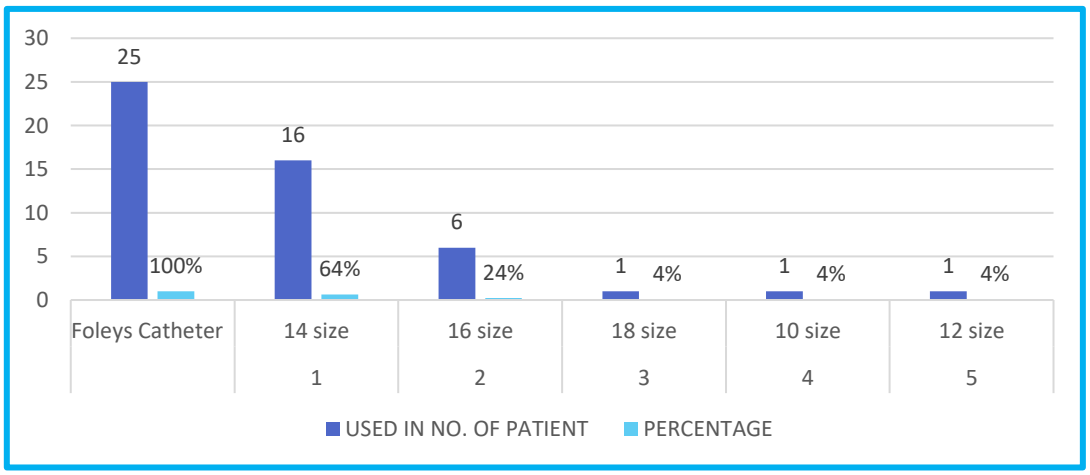
S.NO	REVIEW OF NEED OF CATHETER	USED IN NO. OF PATIENT	PERCENTAGE
1.	Output monitor	6	24 %
2.	Patient Undergone invasive procedures	12	48%
3.	Head injury	3	12 %
4.	Unconscious	1	4 %
5.	No Self Voiding	2	8 %
6.	Spins A Neurology	1	4 %



SECTION – B

Description of patient based on type and size of catheter.

S.NO	TYPE OF CATHETER AND SIZE	USED IN NO. OF PATIENT	PERCENTAGE
	Foleys Catheter	**25**	**100 %**
1.	14 size	16	64 %
2.	16 size	6	24%
3.	18 size	1	4%
4.	10 size	1	4 %
5.	12 size	1	4%



SECTION – C

Description of patient based on No. of days catheter remain.

- Maximum number of duration of catheter remain is 25 days. It is in patient Mr.Muthusamy who has the diagnosis of ASIA-A Neurology.

SECTION – D

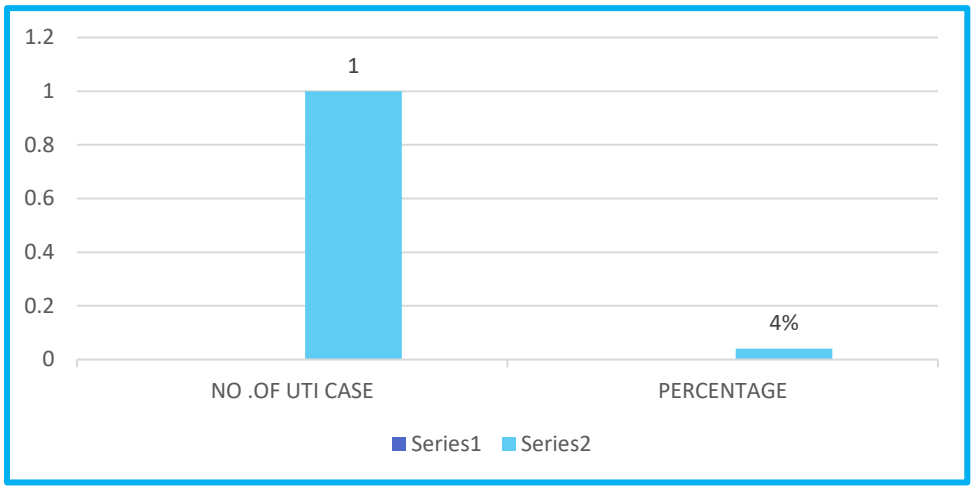
Description of patient based on catheter care given

- In our ICU, our staffs perform daily hygiene routine at morning and evening. Catheter care routine include groves sterile bowl, sterile gauge, artery forceps and Betadine solution. Almost 97% of our staff giving aspectic manner of catheter care to the patient.

SECTION – E

Description of patient who has urinary tract infection
present and antibiotic going on

S. NO	NO .OF UTI CASE	PERCENTAGE
1	1	4 %



3. ORGANIZATION OF DATA

Descriptive and inferential statistics were used for data analysis,
Based on the objectives of the study, the collected data were organized.

4. RESULTS AND DISCUSSION

We have conducted an audit of 25 cases with urinary catheters at ICU Ganga Hospital for the duration from the month of January 2023 to March 2023. The aim of our time is to assess the sterile care given to the patient who is catheterized, how long it remains in the patient, the type and size of the catheter.

The majority of the subjects that came into the review for the need for urinary catheters were the patient undergoing an invasive procedure (48%). 24% of urinary catheter insertion is for monitoring the urine out of the patient. Only 4% of urinary catheter insertions are done for unconscious and spine A Neurology.

Based on the type of urinary catheter used in ICU, the majority of patients use Foley's Catheters (100%). Based on the size of the urinary catheter, 64% use a 14-size urinary catheter, 24% use 16 sizes of urinary catheter and the remaining 12% use 18, 16 and 12 sizes of urinary catheter.

Based on this audit, the maximum number of duration of urinary catheters remains at 05 days. Only 4% of the patients had 25 days of continuous catheter present in the ICU. In the case of sterile care, 97% of our staff are well-knowledgeable and following all the aseptic techniques while handling urinary catheters.

On the basis of this audit, only 4% of patients in the ICU within the duration of 2 months of our audit had urinary tract infection.

5. CONCLUSION

Based on this, an audit was conducted in the ICU of Ganga Hospital over the period of January 2023 – March 2023.

A found out that only one patient in the ICU had Catheter-Related Urinary Tract Infection.

That one patient was diagnosed with spine Asia 'A' Neurology, and he had a long duration of urinary catheter almost 20 days.

From my point of view, one of the main reasons for causing CAUTI is prolonged duration of having a urinary catheter and lack of aseptic catheter care.

In my opinion, we are able to control the UTI in the ICU by giving some awareness education to the staff about urinary catheter care and instructing them to maintain the CAUTI care bundles.

The most valuable thing in this audit that I noticed is the knowledge of staff about the catheter care given to the patient (96.5%). Based on this audit, the CAUTI in Ganga Hospital ICU is much lower.

REFERENCES :

1. Stamm WE, Norrby SR. Urinary tract infections: disease panorama and challenges. J Infect Dis. 2001;183(Supplement_1):S1–S4. doi: 10.1086/318850 [DOI] [PubMed] [Google Scholar]
2. I M Shapey 1, M A Foster, T Whitehouse, P Jumaa, J F Bion ,Diagnosis, Management, and Prevention of Catheter-Associated Urinary Tract Infections - PMC
3. T.S.J. Elliott M.H. Faroqui S.E. Tebbs,R.F. Armstrong, G.C. HansonAn audit programme for central venous catheter-associated infections - ScienceDirect
4. Flores-Mireles AL, Walker JN, Caparon M, Hultgren SJ. Urinary tract infections: epidemiology, mechanisms of infection and treatment options. Nat Rev Microbiol. 2015;13(5):269–284. doi: 10.1038/nrmicro3432 [DOI] [PMC free article] [PubMed] [Google Scholar]
5. Levison ME, Kaye D. Treatment of complicated urinary tract infections with an emphasis on drug-resistant gram-negative uropathogens. Curr Infect Dis Rep. 2013;15(2):109–115. doi: 10.1007/s11908-013-0315-7 [DOI] [PubMed] [Google Scholar]
6. Glenn T Werneburg,Department of Urology, Glickman Urological and Kidney Institute, Cleveland Clinic Foundation, Cleveland, OH, USA,Find articles by Glenn T Werneburg,Catheter-Associated Urinary Tract Infections: Current Challenges and Future Prospects - PMC
7. CAUTI: What Causes CAUTIs? Risks, Health Impact, and More
8. Catheter Associated UTI (CAUTI) - Healthline
9. Chenoweth C, Saint S. Preventing catheter-associated urinary tract infections in the intensive care unit. Crit Care Clin 2013;29:19–32. [DOI] [PubMed] [Google Scholar]
10. Urinary catheterization - Wikipedia