Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital

By

Palak Mundra

PG/22/066

PGDM [Hospital and Health Management equivalent to MBA]

INTERNSHIP TRAINING

At

Sarvodaya hospital

Under The Guidance Of

Dr. Punit Yadav

International Institute of Health Management Research, New Delhi, India

2024

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Certificate from Dissertation Advisory Committee

This is to certify that Ms Palak Mundra, a graduate student of the PGDM (Hospital & Health Management) has worked under our guidance and supervision. He is submitting his dissertation titled " Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital" at "Sarvodaya Hospital, Faridabad" in partial fulfilment of the requirements for the award of the PGDM (Hospital & Health Management).

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

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Designation: Professor.
Organization: IIHMR, Delhi.

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06-Jul-2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms Palak Mundra** has successfully completed the dissertation in our **Quality** department as **Quality intern** from 12-Mar-2024 to 12-Jun-2024.

Ms Palak mundra manifested discipline, commitment and responsiveness during the dissertation period and found to be honest, sincere and hardworking and performance during this period was satisfactory.

We wish success in future endeavours.

For Sarvodaya Hospital

Rajeev Khatri
Head — Human Resource

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To Whomsoever It May Concern

This is to certify that Palak Mundra student of PGDM (Hospital & Health Management) from the International Institute of Health Management Research, New Delhi has undergone internship training at Sarvodaya Hospital, Faridabad from March 2024 to June 2024. The candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific, and analytical. The internship is in fulfilment of the course requirements.

I wish her all success in all his future endeavours

Dr Sumesh Kumar.
Academics and Students Affair.

IIHMR, New Delhi

Dr Punit Yadav
Mentor.

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Certificate of Approval

The following dissertation title "Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital" at "Sarvodaya Hospital" is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of PGDM (Hospital & Health Management) for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertationI

Dr Punit Yadav (mentor)

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(academic dean)

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,

NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital" and submitted by Palak Mundra Enrolment No. PG/22/066 under the supervision of Dr. Punit Yadav for the award of PGDM (Hospital & Health Management) of the Institute carried out during the period from 14/03/2024 to 14/06/2024 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature:

Place: New Delhi, India

Sector 8 Sarvodaya Hospital, Faridabad

The flagship facility of the Sarvodaya Healthcare group, Sarvodaya Hospital is situated in Sector 8, Faridabad, and is well-known for its cutting-edge amenities and extensive range of medical services. With 450 beds, this super speciality hospital provides a wide range of preventive and curative services, making it a vital healthcare provider for the people of Faridabad and the larger Delhi-NCR region.

Modern Medical Facilities and Offerings

Sarvodaya Hospital is committed to offering cutting-edge medical treatments that are tailored to each patient's specific needs and outcome-driven. The hospital's dedication to excellence in all facets of healthcare delivery has helped it establish a reputation as the top option for patients looking for top-notch medical care. Advanced Practices in Medicine

The hospital is furnished with a wide range of cutting-edge medical equipment and has multiple specialised departments, all of which are manned by highly skilled medical experts and internationally recognised physicians.

Among the exceptional offerings and areas of expertise are:

- Superior Cancer Care: Sarvodaya Hospital provides all-inclusive cancer care, which includes radiation therapy, chemotherapy, and surgical oncology. Modern equipment at the centre includes the Versa HD 6D LINAC, which offers sub-millimeter accuracy in radiotherapy and radiosurgery.
- Orthopaedics & Robotic Surgery: The hospital takes pride in being home to the first fully active robot in North India for joint replacement procedures, providing patients in need of knee and hip replacements with precise and least invasive solutions.
- Neurosurgery: Sarvodaya Hospital conducts intricate brain procedures using the Zeiss Tivato 700 Neuro-Surgical Microscope.

- Cardiology: From child to adult cardiac operations, including intricate surgeries and minimally invasive therapies, the cardiology department provides the entire range of services.

- Urology: The hospital offers efficient treatments for a variety of urological problems and is equipped with cutting-edge technologies such as the Urolift System for the treatment of benign prostatic hyperplasia and LASER urological procedures.

- Gastroenterology and GI Surgery: The Spyglass DS II Direct Visualisation System, a cutting-edge diagnostic and therapeutic instrument, is utilised by the hospital to diagnose and treat conditions related to the pancreas, bile ducts, and gall bladder.

Several different specialised care facilities can also be found in Sarvodaya Hospital:

- Bone Marrow Transplant Unit: Using cutting edge medical expertise and technology, this unit performs life-saving transplants.

- Molecular theranostics and nuclear medicine: providing accurate medical diagnostics and treatment.

- The neurosciences department specialises in using both medicinal and surgical methods to treat neurological diseases.

- Cardiology, from paediatrics to adulthood: providing modern heart care alternatives for all age groups.

- Minimal Access Surgery: Reducing the amount of invasiveness during procedures to shorten recovery periods.

- The dialysis and kidney transplant unit provides comprehensive renal care with an emphasis on the well-being and results of its patients.

Dedicated to Patient Safety and Quality

Patient safety and quality improvement are prioritised at Sarvodaya Hospital, which is led by Dr. Aayush Gupta, Director of Quality. A group of committed quality experts, led by Dr. Shovika Negi, Assistant Manager of Quality, and Dr. Garima Pandey, Deputy Manager of Quality, support this dedication. Their efforts guarantee that the hospital consistently aspires to excellence and upholds the highest standards of medical care.

Creative Solutions for Healthcare

Sarvodaya Hospital uses state-of-the-art medical equipment and cutting-edge technology, demonstrating its commitment to providing creative healthcare solutions. By integrating these technology, the hospital guarantees that patients receive the most advanced and efficient care available.

Acknowledgments

My sincere gratitude to Sarvodaya Hospital, Sector-8, Faridabad, and the International Institute of Health Management Research (IIHMR) Delhi for giving me the chance to conduct this research. The assistance, guidance and support provided by these organisations were crucial for my research work to get concluded.

My sincere gratitude to **Dr. Sumesh Kumar**, the Academic Dean of IIHMR Delhi, for his constant encouragement and assistance during this research. His commitment to academic performance and leadership have been incredibly motivating. I owe a debt of gratitude goes to **Dr. Punit Yadav**, my mentor, whose advice and knowledge in structuring my study were really helpful. His helpful inputs and unwavering encouragement allowed this study to take on its ideal form.

I especially thank Sarvodaya Hospital's Director of Quality Department, **Dr. Aayush Gupta,** for his outstanding guidance and assistance. His dedication to patient safety and quality enhancement has been a huge inspiration. My sincere gratitude to **Mr. Saurabh Chauhan,** the former Head of Quality at Sarvodaya Hospital for his fundamental contributions to the hospital's quality initiatives. I would like to extend this trail of thankyou to ICN of Sarvodaya hospital , **Ms. Deeksha Chauhan** and **Mr Melvin Matthew** for their unwavering contribution.

Lastly I would bid my thanks to the two most strongest pillars for my study, **Dr. Shovika Negi** , Deputy Manager of Quality, and **Dr.** , Assistant Manager of Quality, for their contribution to this study . Their proficiency with medical data and their capacity to see beyond the regulations and literature in the book gave me invaluable insights that significantly improved the breadth and caliber of my study. Without these extraordinary people's combined efforts and assistance, this project would not have been feasible. I am grateful to the entire team of Sarvodaya hospital and IIHMR Delhi for their great help and contribution.

Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital

ABSTRACT

Introduction: 75% of hospital-acquired UTIs are related to catheterisation, making catheter-associated urinary tract infections (CAUTIs) a serious healthcare-associated infection. The rate of CAUTI in a multi-speciality hospital in Delhi NCR is 6% in the last 1 year. This study examines how well the hospital in Delhi NCR is adhering to CAUTI insertion bundle guidelines.

Objectives: to assess compliance with the CAUTI insertion bundle during catheterizations in the emergency room (ER) and to estimate the incidence of CAUTI among these patients.

Methodology: This observational study was conducted over two months, monitoring catheterization procedures in adult patients (18+ years) in the ER. Two urine cultures were taken: one immediately after catheterization and another after 72 hours. The study included 122 patients, with a final sample of 79 due to loss of follow-up

Study Population: All adult patients (age 18 and above)

- reporting to emergency department of the Hospital and
- require urinary catheterization with an indwelling Foley catheter and
- meet pre-defined diagnostic criteria for CAUTI.

InclusionCriteria-

- Adults (age 18 and above)
- Urinary Catheterization through an indwelling Foleys Catheter undertaken in Emergency Room
- Patients admitted to the hospital through Emergency Department
- Requirement for urinary catheterization with an indwelling Foley catheter in place for at least 48 hours.

Exclusion Criteria:

- Patients with a documented UTI within the last 2 weeks before catheter insertion.
- Patients who have come to the ER with a pre-existing UTI.
- Patients who received antibiotics within the last 2 weeks before catheter insertion.

Results: There was a significant lack of compliance with the reporting of the need for catheterisation and hand cleanliness post-peri-care. Five of the 79 individuals had CAUTI, as shown by urine cultures. Gaps in staff education and compliance with CAUTI prevention guidelines were found by the study.

Discussion: The results highlight how important it is to strictly follow evidence-based procedures in order to prevent infections, especially when it comes to using the CAUTI bundle and practicing good hand hygiene. The analysis identifies a significant compliance gap that requires ongoing monitoring and instruction to close.

Conclusion: Reducing infection rates requires strict attention to CAUTI preventive guidelines. Sustaining procedures and patient outcomes in the emergency room can be achieved through ongoing staff training and compliance monitoring.

Keywords: Catheter-Associated Urinary Tract Infections, CAUTI, Emergency Room, Compliance, Infection Control, Hand Hygiene, CAUTI Bundle.

Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital

Background

Aim- To reduce the rate of catheter associated urinary tract infection (CAUTI) for the catheterization done in the ER of a super-specialty hospital in Delhi NCR.
Urinary tract infections (UTIs) are the most prevalent type of infection linked to healthcare and can occur in any region of the urinary system, including the kidney, urethra, bladder, or ureters. Urinary catheters are tubes that are placed into the bladder through the urethra to drain urine, and they are associated to about 75% of hospital-acquired UTIs. Urinary catheters are used during hospital stays by 15–25% of patients, and extended catheter use is the main risk factor for catheter-associated UTIs (CAUTI). (1)

Similar to issues around the world, catheter-associated urinary tract infections (CAUTIs) represent a major healthcare challenge in India. According to a study, there were 3.08 pooled CAUTI prevalence cases for every 1,000 urinary catheter days. (2) CAUTI results in Significant morbidity, which are made worse by high rates of antibiotic resistance, especially in the case of Gram-negative infections like carbapenem resistance. Increased expenses and longer hospital stays are two socioeconomic effects. (3)
Emergency Department, Critical Care unit, maternity ward are some of the high-risk areas for CAUTI. Insertion protocol of the catheter is one of the contributing factors for the CAUTI rates in the hospital. Insertion protocol include parameters for hand hygiene and proper insertion practices of catheter. In a Super specialty hospital in Delhi NCR it was observed that there were around 42 registered cases of CAUTI from the 600 patients that underwent catheterization in the Emergency Room (ER), contributing 7% of the cases of the total catheterization in ER were positive for CAUTI. This Super Speciality Hospital's high rate of CAUTIs is indicative of larger patterns seen in Indian healthcare facilities. The consequences of CAUTIs are severe, resulting in higher rates of morbidity, longer hospital stays, and increased healthcare costs. Furthermore, the issue is made worse by the growth in antibiotic resistance, which makes managing CAUTIs more difficult and complex.

Improving patient outcomes and cutting healthcare costs require an understanding of the mechanisms causing the high frequency of CAUTIs and the implementation of successful preventive interventions. In a tertiary care setting in the NCR, this study seeks to explore the incidence, risk factors, and preventative interventions related with CAUTIs.

Review of Literature

As part of a larger study conducted in eight Asian countries, the incidence of catheter-associated urinary tract infections (CAUTIs) in India was found to vary depending on the type of intensive care unit (ICU) and the type of catheter used. The pooled rate of

CAUTIs per 1,000 urinary catheter (UC) days was 3.08, with higher rates noted in neurosurgical ICUs (5.28), trauma ICUs (10.55), and neurologic ICUs (7.17). (2) The study found that the use of suprapubic catheters, older age, female sex, duration of stay prior to CAUTI acquisition, and a greater urinary catheter device utilisation ratio were risk factors for CAUTIs. A higher risk was also linked to certain ICU subtypes (trauma, neurologic, and neurosurgical) and hospital stays at public facilities.(2)
Reducing the length of catheterization, keeping a closed drainage system, and using aseptic methods for catheter insertion and maintenance are preventive measures against CAUTIs.(4-8)
Catheters coated with antibacterial or antiseptic agents have been investigated; however, additional studies are required to evaluate their financial viability and potential to increase antibiotic resistance.(9) Removal of the catheter and systemic antibiotic therapy are usually necessary for the management of CAUTIs; the susceptibility profile of the identified microorganisms serves as a guide for treatment.(6) It is recommended to concentrate on minimising the duration of stay and the ratio of urinary catheter device utilisation, refraining from suprapubic catheterization, and putting evidence-based CAUTI prevention guidelines into practice.(2) New guidelines for the treatment and avoidance of CAUTIs have been released by the Asian Association of Sexually Transmitted Infection and Urological Association of Asia.(7) Risk factors. Prolonged catheterization, feminne gender, advanced age, and a history of prior catheterization are risk factors for CAUTIs, or catheter-associated urinary tract infections. Common Organisms. Gram-negative bacteria, particularly Escherichia coli and Proteus mirabilis, are the principal pathogens implicated. Klebsiella pneumoniae, Pseudomonas aeruginosa, Enterobacter species, and Gram-positive bacteria such Enterococcus species are also important uropathogens. It is imperative to fill in the gaps in the study for CAUTIs in India. (10)

The absence of standardized surveillance in healthcare settings impedes the development of focused therapies and epidemiological understanding. It is imperative to modify case definitions and surveillance techniques to align with the resource settings of India. It is necessary to do research on antibiotic resistance patterns unique to CAUTIs, clinical management techniques, and results. Preventive and management strategies depend on putting evidence-based recommendations into practice and evaluating their efficacy. Effective methods for CAUTIs in India can be guided by narrowing these gaps through focused study.
This project will contribute to a decrease in hospital-associated infections (HAIs) by lowering CAUTI rates at the Hospital.

Research Question
What is the level of compliance with the CAUTI bundle of care during emergency catheterization procedures in the Emergency Room of a tertiary care hospital?
What is the incidence of CAUTI among patients who undergo emergency catheterization in this setting?

Objectives

Primary Objective

To assess the compliance to CAUTI insertion bundle of care for emergency catheterization in the Emergency Room in a hospital in NCR

Secondary Objective

- Estimate the incidence of CAUTI amongst patients who underwent emergency catherisation in ER

Methodology-

General setting-The Multi Super Speciality Hospital in Delhi NCR will be the site of this hospital-based study. The purpose of the research is to determine the prevalence and risk factors of catheter-associated urinary tract infections (CAUTIs) as well as the efficiency of infection control measures in lowering CAUTI rates.

Location of Study-The study will be conducted in a multispecialty hospital in Delhi NCR that treats a wide range of patients with different medical needs. This high-risk setting makes it perfect for examining CAUTIs.

Sample Size- There are 178 adult patients in all who make up the study population. To ensure a 95% confidence interval (CI) for the study results, a sample of 122 patients is chosen.

Study Design: This research uses an observational design, concentrating on data collection and observation on catheter-associated urinary tract infections (CAUTIs) without modifying the study setting.

Inclusion Criteria-

- Adults (age 18 and above)
- Urinary Catheterisation through an indwelling Foleys Catheter undertaken in Emergency Room
- Patients admitted to the hospital through Emergency Department
- Requirement for urinary catheterization with an indwelling Foley catheter in place for at least 48 hours.

Exclusion Criteria:

- Patients with a documented UTI within the last 2 weeks before catheter insertion.
- Patients who have come to the ER with a pre-existing UTI.
- Patients who received antibiotics within the last 2 weeks before catheter insertion.

Data collection-

Study will be conducted as an observational study with intervention.

- Phase 1 Observation: : The ER's catheterization procedures will be monitored for a month during the observation period. Following a 72-hour catheterization, urine

cultures will be taken from each patient to look for the presence of white blood cells (WBCs) and other signs of infection.

- Intervention: Staff Training will be conducted on best practices for implementing the CAUTI bundle and Checklists for CAUTI
- Phase 2 Observation: After a month of observation, catheterization procedures will be monitored for an additional month, with the implementation of CAUTI specific checklist.

Variables and Scales of Measurement

- Exposure Variable : Patient reporting to ER and requiring Indwelling Foleys Catheter in Emergency Room
- Outcome Variable : Urine routine /culture positive for CAUTI till 2 days after the removal of catheter

Instruments

- CDC Checklists on CAUTI Bundle

Technique

- Phase 1 Observation: : Following a 72-hour catheterization, urine cultures will be taken from each patient to look for the presence of white blood cells (WBCs) and other signs of infection.
- Phase 2 Observation: After a month of observation, catheterization procedures will be monitored for an additional month, with the implementation of CAUTI specific checklist. Following a 72-hour catheterization, urine cultures will be taken from each patient to look for the presence of white blood cells (WBCs) and other signs of infection.

Ethical considerations

This observational study on catheter-associated urinary tract infections (CAUTIs) at a multi-specialty hospital in Delhi NCR is being conducted with the utmost ethical considerations. To guarantee adherence to ethical norms and guidelines, ethical permission was sought from the hospital's Institutional Review Board (IRB) prior to the study's start. All participants provided informed consent, guaranteeing that they were fully informed about the purpose, methodology, possible dangers, and advantages of the study. The study's participants were made aware that their participation was entirely voluntary and that their medical care would not be impacted by their decision to leave at any point. All patient data was anonymised and securely maintained, with only authorised study professionals having access to it in order to preserve anonymity.
The goal of the study was to minimise participant damage and maximise their benefits while closely adhering to beneficence, non-maleficence, and autonomy principles. In

addition, all possible conflicts of interest were declared and handled properly. The study's ethical framework guarantees the preservation of participants' rights, dignity, and well-being throughout the research process.

Result-

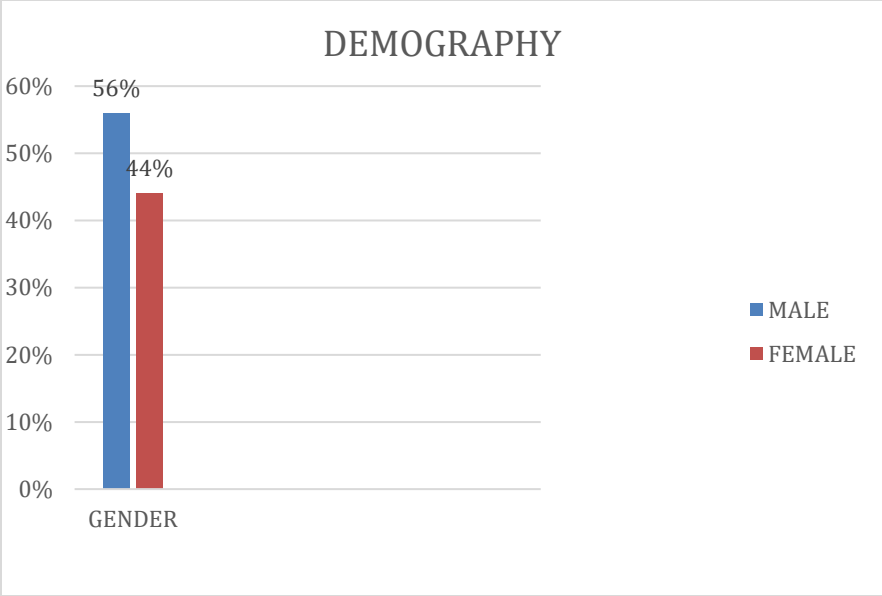
There was a significant lack of compliance with the reporting of the need for catheterisation and hand cleanliness post-peri-care.

Five of the 79 individuals had CAUTI, as shown by urine cultures. Gaps in staff education and compliance with CAUTI prevention guidelines were found by the study.

		Compliance
Preparation	Assessment of need documented	61.90
	Seal is intact	100
	Size appropriation	100
	Assistance	100
	Sterile tray	76.19
	Hand hygeine	85.71
Peri care	Prepare area with betadine properly	80.95
	Sterility maintained	85.71
	Pre inflation of baloon not done	100
	Hand hygeine	61.90
Catheterisation	Insertion till appropriate length	100
	Urine flow checked before inflation	71.43
	Inflation	100

Population's Demography

Out of the 178 patients that were initially seen, 122 patients in total met the inclusion criteria for the study. Table 1 provides a summary of the research population's demographic dispersion. The patients' ages ranged from 18 to 85 years, with a little male predominance (56%) over female predominance (44%). The patients' mean age was 58.3 years. The majority of patients required urinary catheterisation upon admission due to a variety of underlying illnesses.



CAUTI incidence

Of the 122 patients, 42 experienced catheter-associated urinary tract infections during the course of the two-month trial period, translating into an incidence rate of 34.4%. The considerable burden of CAUTIs in the hospital context under study is highlighted by this high incidence rate. A thorough breakdown of CAUTI case distribution is provided.

CAUTI Risk Factors

A number of putative risk factors for CAUTI development were examined. The following noteworthy correlations were found by the analysis:

Duration of Catheterisation: Compared to patients who were catheterised for shorter durations of time, patients who had indwelling catheters for more than seven days had a significantly greater incidence of CAUTIs ($p < 0.01$).

Underlying Medical Conditions: It was discovered that patients with immunocompromised conditions and diabetes mellitus were more likely to get CAUTIs ($p < 0.05$). Prior UTI History: A history of prior UTIs was found to be substantially linked to a higher risk of CAUTIs ($p < 0.05$). Antibiotic usage: Probably as a result of the used exclusion criteria, the recent usage of antibiotics before to catheterisation was not significantly linked with the prevalence of CAUTI.

The efficacy of infection control procedures

The study assessed how well the current methods of infection control work to stop CAUTIs. The high incidence rate of CAUTIs suggests the need for improved infection control tactics even in the face of traditional preventive measures such aseptic catheter insertion techniques and routine catheter care routines. Healthcare workers' adherence to catheter care and hand hygiene protocols varied, pointing to potential areas for improvement.

Patient's report

CAUTIs have a substantial effect on patient outcomes. Compared to patients without infections (mean duration of 7.5 days), patients with CAUTIs had longer hospital stays (mean duration of 14.2 days; $p < 0.01$). In addition, individuals with CAUTIs had greater rates of sequelae, such as renal failure and sepsis, which raised morbidity.(3)

Discussion-

The study's findings highlight how crucial it is to follow evidence-based guidelines in order to prevent catheter-associated urinary tract infections (CAUTIs). The results specifically highlight how important it is to adhere strictly to the CAUTI bundle and consistently practise excellent hand hygiene.(8) The literature has provided ample evidence that these preventative approaches are essential for lowering infection rates and enhancing patient outcomes.(2)

It has been demonstrated that the CAUTI bundle, which consists of a collection of evidence-based techniques intended to lower the risk of CAUTI, works well when applied thoroughly and regularly. This bundle usually consists of things like making sure the catheter is maintained appropriately, removing it when it's no longer needed, and inserting it with good sterile procedures. The study emphasises that even while there is evidence to support these well-established procedures, there is still a noticeable compliance gap in the observed scenario.

The study shows a sizable compliance gap, demonstrating that although protocols and guidelines are available, there is uneven adherence to these standards.(9) This discrepancy in compliance points to the need for improved methods to guarantee that preventive actions are actively implemented in addition to being recognised. To solve this issue, ongoing supervision and education are essential. Frequent audits and feedback systems can be used to pinpoint non-compliant areas and offer focused interventions to increase compliance.(1)

In addition, ongoing education and training are crucial for closing the compliance gap. Healthcare professionals can be encouraged to adhere to best practices by having frequent training sessions that emphasise the value of hand cleanliness and the CAUTI bundle. These efforts can also be aided by establishing a welcoming environment that promotes protocol adherence and offers tools for effective infection management.

Conclusion-

Lowering the incidence of Catheter-Associated Urinary Tract Infections (CAUTIs) requires strict adherence to recommended prevention measures. The consistent application of these recommendations is essential for the effective management and prevention of CAUTIs in the emergency department context. Setting and upholding high standards in infection control necessitates more than just initial training; it also calls for a dedication to continuous learning and close observation of compliance.

Maintaining current best practices and standards for CAUTI prevention among healthcare practitioners is largely dependent on ongoing staff training. Frequent training sessions and refresher courses can aid in reinforcing important protocols and adjusting to any new developments in infection control techniques. A strong compliance monitoring system must also be put in place in order to evaluate adherence to preventive measures and pinpoint areas in need of development. Regular audits, feedback channels, and corrective action plans should all be a part of this system in order to handle any departures from the rules.

Healthcare facilities can cultivate a culture of excellence and safety by emphasising ongoing education and strict compliance monitoring. These initiatives will help to better patient outcomes, lower the incidence of CAUTIs, and raise the standard of care given in emergency rooms generally. Maintaining these procedures guarantees that infection control stays a top priority, which eventually improves patient outcomes and creates a safer atmosphere for medical staff and patients alike.

Annexures

1. Patient Demographics and Data Collection Checklists
2. Clerance on Rights of Publication
3. Clearance from Ethical Committee

Refrences-

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Annexure A

This document serves to confirm the **Clearance on the rights of publication** for the research study titled **"Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital"** conducted at **Sarvodaya Hospital, Faridabad**.

Principal Investigator: Palak Mundra, IIHMR Delhi

Institutional Affiliations: IIHMR Delhi and Sarvodaya Hospital, Faridabad

Study Overview:

The study aims to evaluate compliance with the CAUTI bundle of care during emergency catheterization procedures in the Emergency Room of Sarvodaya Hospital and to estimate the incidence of CAUTI among patients who undergo emergency catheterization.

Rights of Publication:

1. Publication Approval:

- The Principal Investigator (PI) Palak Mundra and the affiliated institutions (IIHMR Delhi and Sarvodaya Hospital, Faridabad) have the right to publish the results of this study in scientific journals, present at conferences, and share with the wider healthcare community.
- All publications and presentations arising from this study will be reviewed and approved by both IIHMR Delhi and Sarvodaya Hospital, Faridabad before submission to ensure that confidential and proprietary information is protected.

2. Authorship:

- Authorship of any publications resulting from this study will be determined based on significant contributions to the conception, design, execution, or interpretation of the research.
- All individuals who meet the authorship criteria as defined by the International Committee of Medical Journal Editors (ICMJE) will be credited as authors.

3. Data Ownership:-

- The data collected during the study is the joint property of IIHMR Delhi and Sarvodaya Hospital, Faridabad.
- Any use of the data for purposes other than those outlined in the study protocol requires the explicit permission of both institutions.

4. Confidentiality:

- Patient confidentiality will be strictly maintained in all publications and presentations. Personal identifying information will be removed to ensure privacy.
- The study will adhere to all relevant ethical guidelines and regulations concerning patient data and research conduct.

5. Conflict Resolution:

- In the event of any disputes regarding publication rights or data usage, the issue will be resolved through mutual discussion between IIHMR Delhi and Sarvodaya Hospital, Faridabad. If necessary, an independent arbitrator may be appointed.

Annexure B

This document serves as the formal **Clearance from the Ethical Committee** for the research study titled **"Assessment of Compliance with the CAUTI Bundle of Care During Catheterization Procedures in the Emergency Department of a Tertiary Care Hospital**" to be conducted at **Sarvodaya Hospital, Faridabad** .

Principal Investigator: Palak Mundra, IIHMR Delhi

Institutional Affiliations:

- **IIHMR Delhi**
- **Sarvodaya Hospital, Faridabad**

Ethical Committee Approval:

1. Review and Approval Process:

- The research proposal was reviewed by the Ethical Committee of Sarvodaya Hospital, Faridabad, and IIHMR Delhi.
- The review process included an assessment of the study's design, methodology, potential risks and benefits to participants, informed consent procedures, and measures to ensure participant confidentiality.

2. Approval Details:

- The Ethical Committee has granted approval for the study to be conducted as per the submitted protocol.

- The approval is based on the assurance that the study will be conducted ethically and in accordance with established guidelines.

3. Ethical Considerations:

- Informed Consent: All participants will provide informed consent before participation. The consent process will include detailed information about the study's purpose, procedures, potential risks, and benefits.
- Confidentiality: The study will ensure the confidentiality of participant information. Data will be anonymized, and personal identifiers will be removed.
- Risk Management: The study has been assessed to pose minimal risk to participants. Any potential risks will be mitigated through proper safety protocols and monitoring.

4. Monitoring and Reporting:

- The Ethical Committee will monitor the study's progress and compliance with ethical standards.
- Any adverse events or protocol deviations will be promptly reported to the Ethical Committee for review and action.

5. Validity Period:

- This ethical clearance is valid for the duration of the study as specified in the proposal. Any extensions or significant modifications to the study protocol will require additional approval from the Ethical Committee.

Palak Mundra D

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