Preventing Catheter Associated Urinary Tract Infections

Posted on September 20, 2019

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Inserting indwelling urinary catheters in patients is a collective practice for keeping the urinary bladder of the patients empty during their stay in the hospitals in the course of pre- and post-operation stays and other treatment procedures. Although this collective practice is carried out with the purpose of facilitating both the patients and the nursing staff, the patients are likely to get catheter-associated urinary tract infections (Patel et al., 2023).

This assignment is an attempt to find the answer to the question of whether catheterization is essentially necessary for the patients or if any other alternative procedure or treatment plan can be adopted in this regard, such as the use of alcohol-based sanitisers. Moreover, this assignment addresses the context of nurses in connection with their services to the patients what can these nurses do in order to improve the existing clinical facilities and how can they help to keep their patients safe and healthy. In the end, this assignment points out where the researchers and practitioners can go from this point in the discussion.

Furthermore, the PICOT question or clinical question helps to integrate clinical practices with evidence. The role and preferences of patients also play an essentially critical role in the development of the PICOT question. It helps integrate more evidence-based practices into the nursing profession. Nurses use evidence-based research and interpret research findings in order to support their professional decisions (Agency for Healthcare Research and Quality [AHRQ], 2024). This assignment is an attempt to reflect the dissemination of the knowledge of nurses in professional and personal practices.

The Problem

Acute urinary tract infections in acute care settings account for at least thirty-three per cent of all hospital-acquired infections. Approximately eighty per cent of these infections have been accredited to the use of indwelling catheters. There is a strong possibility that the patient will introduce infection into the body due to the insertion of the catheters. The end result would be a catheter-related urinary tract infection if there is no history of previous infectious processes in these patients because the existence of a urethral catheter offers a direct link to the usually sterile bladder from the colonized perineum. At the same time, it avoids many of the natural defences of the bladder. Therefore, the introduction of bacteria into the bladder is easier. It can occur either by raising the catheter tubing or

at the stage of initial catheterization. For instance, bacteria are introduced into the bladder when changing the catheter bag (Patel et al., 2023).

The largest percentage of heath-associated infections are represented by catheter-associated urinary tract infections. It can lead to complications such as urosepsis, endophthalmitis, prostatitis, gram-negative bacteremia, pyelonephritis, cystitis, and even death. The Centers for Medicare and Medicaid Services does not reimburse for the extra costs of treatment because it no longer considers catheter-associated urinary tract infections a non-preventable complication. Consequently, practice changes in order to eradicate the infection have been implemented as a result of the increased costs and adverse outcomes. There are several other consequences for these infections as well, such as discharge delays, activity restriction, patient discomfort, and the potential development of a transmittable multidrug-resistant bacterium (Patel et al., 2023).

Several thousand dollars are added to the overall cost of hospitalization for the patient due to a single case of catheter-associated urinary tract infection. The mean cost of health-associated infections is approximately thirteen thousand dollars, which is increased by not less than a hundred thousand for each episode of the catheter-associated urinary tract infection alone. However, if the patient gets secondary infections to the primary urinary tract infection as well, then the basic cost of hospitalization is increased by approximately three thousand U.S. dollars. Furthermore, the annual cost of treating catheter-associated urinary tract infections ranges from approximately three hundred and forty million American dollars to four hundred and fifty American dollars.

Moreover, the risk of contracting the infection is increased by three to five per cent every day an indwelling catheter remains in place. Each contraction of the infection increases the stay of the patient in the hospital by at least one day. The most shocking statistic in this regard concerns the deaths of approximately thirteen thousand patients every year due to the complications associated with catheter-associated urinary tract infections. All of these additional costs have to be eaten by the hospitals each year. Therefore, hospitals need to address and resolve the problem of the increased ratio of catheter-associated urinary tract infections. Nurses can play an essentially critical role in this regard (The Joint Commission, 2025).

Clinical Question

Many types of research have supported the use of alcohol-based sanitisers by nurses in reducing the risk of catheter-associated urinary tract infections in patients with indwelling urinary catheters during prolonged hospital stays throughout their years of nursing (Centers for Disease Control and Prevention [CDC], 2024). Based on this evidence shown by the past literature that alcohol-based sanitisers are a better option for decreasing the risk of CAUTI (catheter-associated urinary tract infection), a background question was formulated. However, a more formal and specific research question has to be researched for the purpose of fully formatting a PICOT question. Research in this area identifies how the use of alcohol-based hand sanitisers decreases the risk of catheter-associated

urinary tract infection in patients with indwelling urinary catheters, as well as how the location and placement of the alcohol-based hand sanitisers improve this situation.

Research has presented qualitative evidence on the topic under discussion. The study employed site visits and in-person interviews at three of the twelve hospitals, as well as semi-structured telephone interviews with key informants, including senior executives, clinical personnel, and infection preventionists at twelve hospitals. All of these hospitals were participating in a statewide patient-safety program. The result of the study indicated appropriate urinary catheter use and barriers to Bladder Bundle implementation. It suggested addressing these barriers with the strategy of (I) engaging with the physicians and nurses of the emergency department, (II) explicit discussion of the risk of catheter-associated urinary tract infections, and (III) incorporating urinary management such as planned toileting (AHRQ, 2024).

The PICOT question or clinical question from the research is: In patients with indwelling urinary catheters, does the use of alcohol-based sanitisers decrease the risk of catheter-associated urinary tract infection, and how does the placement of alcohol-based sanitisers near the entrance impact this scenario?

The PICOT question is based on the following five components:

Population	Interventions of Interest	Comparison Intervention	Outcome	Time
Any patient involved with the nursing staff	Improving hand-hygiene compliance	Placement of alcohol-based hand sanitisers near entrances in comparison to other places	Reduction of the risk of catheter-associated urinary tract infection in patients with indwelling urinary catheters during prolonged hospital stays.	Varies from patient to patient and can take from two months to two years

The placement of the hand rubs near the entrance, compared with other locations, will greatly affect patient safety and healthcare quality. However, not all nursing staff will use sanitisers properly. Therefore, the compliance level must be increased because it will decrease the chances of patients contracting infections. Transmission of the infection from one patient to the other will also be decreased. It will eventually reduce the associated healthcare costs as well (CDC, 2024; The Joint Commission, 2025).

References

Agency for Healthcare Research and Quality. (2024). *Learn from defects tool worksheet: Catheter-associated urinary tract infection (CAUTI)*. https://www.ahrq.gov/sites/default/files/wysiwyg/hai/tools/clabsi-cauti-icu/cauti-learning-from-defects-revised.pdf

Centers for Disease Control and Prevention. (2024, February 27). *About hand hygiene for patients in healthcare settings*. https://www.cdc.gov/clean-hands/about/hand-hygiene-for-healthcare.html

Patel, P. K., Advani, S. D., Kofman, A. D., Lo, E., Maragakis, L. L., Pegues, D. A., Pettis, A. M., Saint, S., Trautner, B., Yokoe, D. S., & Meddings, J. (2023). Strategies to prevent catheter-associated urinary tract infections in acute-care hospitals: 2022 update. *Infection Control & Hospital Epidemiology, 44*(8), 1209–1231. https://doi.org/10.1017/ice.2023.137

The Joint Commission. (2025, March 12). *Joint Commission Online—March 12, 2025*. https://www.jointcommission.org/en/knowledge-library/newsletters/joint-commission-online/12-mar-25