Indwelling Catheter Challenge

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Does your patient REALLY need a catheter?

STOP!
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LEARNER OBJECTIVE: The learners will be able to evaluate their own knowledge about evidence-based indwelling catheter care and compare it against the nurses in the study  

CONFLICT of INTEREST: None  

EMPLOYER: Massey University, New Zealand  

SPONSORSHIP: None
Study Design

- Pre- and post-test study
- Part of a mixed methods research

- AIM: To investigate the impact of a catheter-associated urinary tract infection (CAUTI) education package on nurses’ knowledge and indwelling catheter management practices

- INTERVENTION: Education for staff nurses on evidence-based strategies to manage indwelling urinary catheters and to prevent CAUTI
Setting and Participants

• Surgical wards of a public hospital in Auckland, New Zealand

• Convenience sample of nurses (n=14) who performed catheter care activities and who were available at the time of the research
Data Gathering Tool

- Pre- and post-test with 25-item multiple choice questions
- Test adapted from CAUTI prevention tests published by Schneider (2012) and Dumont and Wakeman (2010) to improve test reliability
- Additional questions relevant to the research setting were incorporated
- Pilot tested by nurses at the medical and aged care services; changes made to further improve test reliability and validity
Test Questions

Grouped together into four main topics to facilitate hypothesis testing

- Background knowledge
- Indwelling catheter insertion
- Indwelling catheter maintenance
- Indwelling catheter removal
Four main topics correspond to the four components of an evidence-based CAUTI prevention bundle of care:

- reduce inappropriate use of urinary catheters
- perform proper techniques for indwelling catheter insertion
- implement proper catheter maintenance procedures
- and remove catheters in a timely manner (IHI, 2011)
Data Collection

Three phases, namely:
- pre-intervention
- intervention
- evaluation phase
Ethical Considerations

Approved by the research committee of the health board and the university human participants’ ethics committee

- principles of beneficence
- principle of respect for human dignity
- principle of veracity
- principle of justice
- confidentiality of information
Findings

• Wilcoxon Signed-Rank test showed a significant difference ($p < 0.05$) between the pre- and post-test scores on each of the four main topics

• Paired t-test showed a significant difference ($p < 0.0001$) in the overall pre- and post-test scores, with a mean difference of 6.64 and 95% CI of (4.96, 8.33)
Questions where nurses in the study remained to have incorrect answers were:

- evidence-based interventions to reduce CAUTI rates,
- appropriate use of indwelling catheters,
- use of antiseptic lubricants,
- proper indications for changing urinary catheters,
- peri-urethral area cleaning, and,
- urine sample collection

Do you think you can score higher than the nurses in this study?
1. Which among the following is true about biofilm?
2. Which of the following reduces the incidence of CAUTI?
3. Sterile insertion technique is the only effective measure in preventing catheter-associated urinary tract infection (CAUTI).
4. All of the following are evidence-based ways of preventing CAUTI in the acute-care setting, EXCEPT one
5. ALL of the following are common outcomes associated with CAUTI, EXCEPT one
6. Systemic antimicrobial agents are best used routinely as prophylaxis against CAUTI.
7. The following are examples of inappropriate use of indwelling catheters, EXCEPT one

8. Routine use of antiseptic lubricants is not necessary when inserting a urinary catheter aseptically.

9. Changing indwelling catheters or drainage bags at routine, fixed intervals is an evidence-based recommendation.

10. Cleaning of the peri-urethral area with antiseptics should be done regularly while the catheter is in place to prevent CAUTI.

11. Urine samples for culture could be collected from the port of the drainage bag using a sterile urine container.
The CAUTI education package had a significant impact on the nurses’ knowledge of the four interrelated components of indwelling catheter care and CAUTI prevention.


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Thank You!

M. Hernandez – IDC Challenge