# Intervention to Improve Nurses' Knowledge and Compliance with the Indwelling Urinary Catheter Bundle

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## Introduction & Background

- Majority of hospital-acquired urinary tract infections (UTIs) are related to indwelling urinary catheters (IUCs)<sup>1</sup>. Despite evidence supporting the use of an IUC bundle, compliance with its elements can be challenging due to lack of knowledge<sup>2, 3, 4, 5, 6, 7, 8, 9</sup>.
- The purpose of this project was to improve nurses' knowledge of and compliance with the IUC bundle in the intermediate care setting using an educational intervention.

# **Specific Aims for Project**

After one month of education on the IUC bundle,

- 1. nurses' knowledge of the IUC bundle would increase.
- 2. nursing compliance with the elements of the IUC bundle would increase

### Methods

- This project utilized a single group, pre-post design comparing knowledge of intermediate care nurses about the use of the IUC bundle and their compliance with the bundle before and after the educational intervention.
- The intervention was nursing education on the IUC bundle with a poster presentation.
- A validated questionnaire was administered pre and post intervention to assess the knowledge of nurses on the use of the IUC bundle.

#### Results

- A total of 40 participants who met the inclusion criteria were recruited from intermediate care unit at the project hospital.
- All 40 participants completed both the pre and post intervention questionnaire.
- There was a statistically significant difference between the pre and posttest knowledge scores for all participants and a slight improvement in bundle compliance.

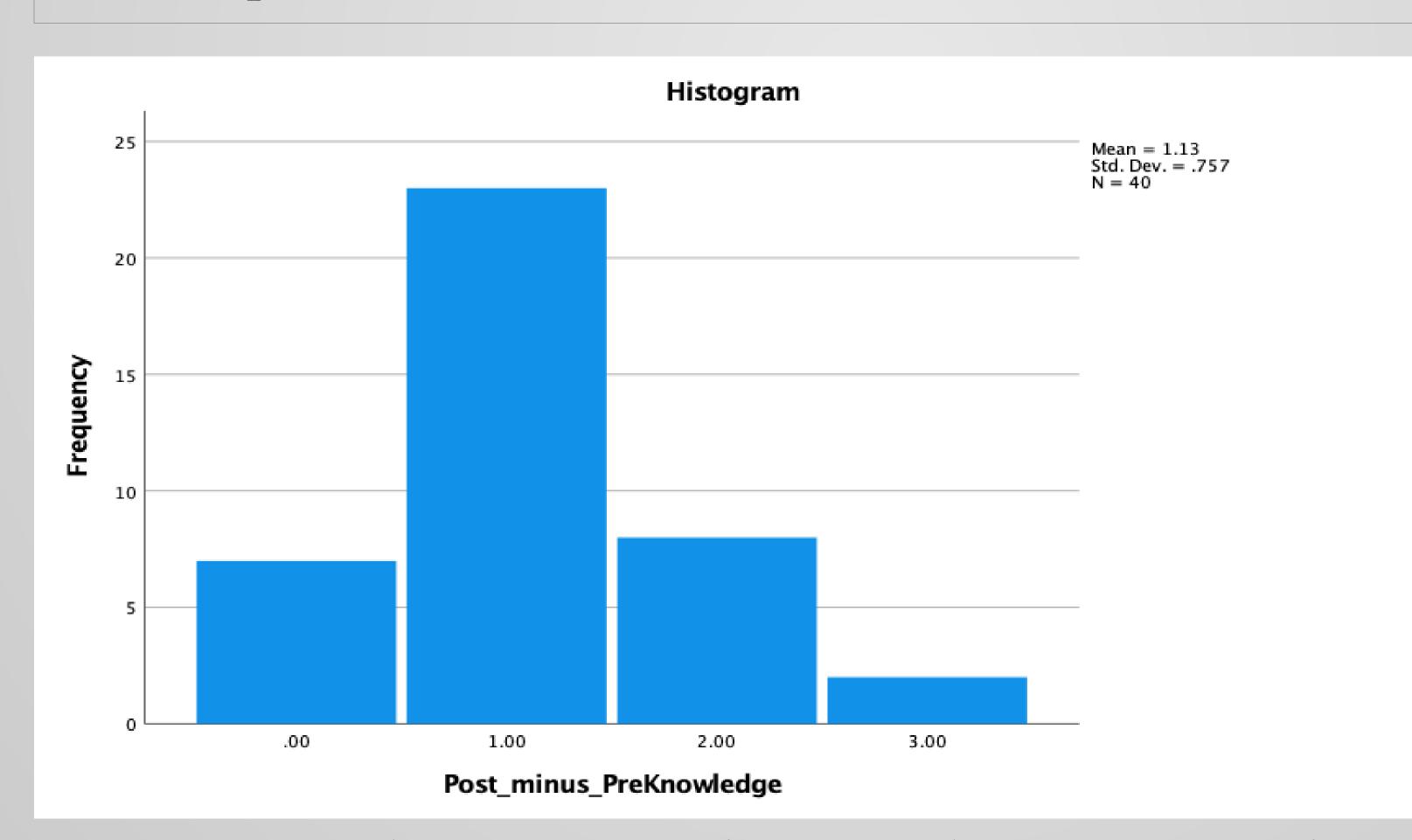


Figure 1. Distribution of the difference between pre and post summary scores

## Discussion & Conclusion

- Providing education on the IUC bundle can result in significant increase in nurses' knowledge on its use and improve nurses' compliance with the bundle.
- These findings should be used to encourage nurses to continue to maintain compliance with the IUC bundle when caring for patients with IUCs.

Foley Bundle Component (%)	Pre	Post
Foley Indications	100.0	97.7
Peri Care	96.2	97.7
Urine Flow Unobstructed	98.7	100.0
Foley Tubing & Bag Below Bladder	100.0	100.0
Securement Device	100.0	100.0

Table 2. Comparing Compliance Rate of Foley Bundle from Preintervention to Post-intervention

#### References:

- 1. Centers for Disease Control and Prevention (CDC) (2019). *Catheter-associated urinary tract infections (CAUTI)*. https://www.cdc.gov/hai/ca\_uti/uti.html
- 2. Curran, E., & Murdoch, H. (2009). Aiming to reduce catheter associated urinary tract infections (CAUTI) by adopting a checklist and bundle to achieve sustained system improvements. *Journal of Infection Prevention*, 10(2), 57–61. https://doi.org/10.1177/1757177408097755
- 3. Elpern, E. H., Killeen, K., Ketchem, A., Wiley, A., Patel, G., & Lateef, O. (2009). Reducing use of indwelling urinary catheters and associated urinary tract infections. *American Journal of Critical Care*, 18(6), 535-542. https://doi.org/10.4037/ajcc2009938
- Hernandez, M., King, A., & Stewart, L. (2019). Catheter-associated urinary tract infection (CAUTI) prevention and nurses' checklist documentation of their indwelling catheter management practices. Nursing Praxis in New Zealand, 35(1), 29–42. https://doi.org/10.36951/ngpxnz.2019.004
- Johnson, P., Gilman, A., Lintner, A., & Buckner, E. (2016). Nurse-driven catheter-associated urinary tract infection reduction process and protocol. *Critical Care Nursing Quarterly, 39*(4), 352-362. https://doi.org/10.1097/CNQ.0000000000000129
- 6. Reilly, L., Sullivan, P., Ninni, S., Fochesto, D., Williams, K., & Fetherman, B. (2006). Reducing foley catheter device days in an intensive care unit: Using the evidence to change practice. *AACN Advanced Critical Care*, 17(3), 272-
  - 283. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=rzh&AN=1063 37197&site=ehost-
  - live&scope=site&authtype=ip,shib&custid=s3555202http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=rzh&AN=106337197&site=ehost-live&scop
- 7. Shehab, M. S. (2017). Impact of protocol of care of patients undergoing urinary catheterization on nurses' knowledge. *International Journal of Caring Sciences*, 10(2), 1013–1020.
- 9. Underwood, L. (2015). The effect of implementing a comprehensive unit-based safety program on urinary catheter use. *Urologic Nursing*, *35*(6), 271–279. https://doi.org/10.7257/1053-816X.2015.35.6.271