

# Assessment Knowledge and Practices of Central Line Insertion and Maintenance in Adult Intensive Care Units at a Tertiary Care Hospital in Saudi Arabia

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## BACKGROUND

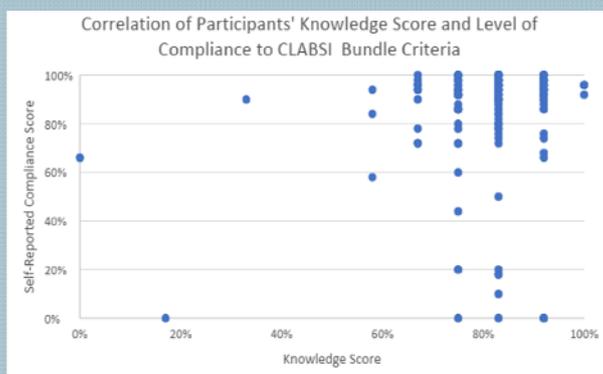
- Central venous catheters used in healthcare system for a variety of indications, and bloodstream infections are considered one of its major complications.
- Recent introduction of Central line bundles was associated with a drop in the CLABSI rates.
- Central line bundles is a group of evidence-based interventions for patients with intravascular central catheters that, when implemented together, result in better outcomes than when implemented individually. Despite the fact that CLABSIs are largely preventable, CLABSIs are still frequently seen due to breaches in sterile technique while insertion of the catheter, administration of fluids, or during maintenance the catheter.
- The purpose of this research was to assess the knowledge and practice of central line bundles among healthcare workers in intensive care units

## METHODOLOGY

- A cross-sectional study was conducted in King Abdul-Aziz medical city in Riyadh including 171 nurses and 41 physicians working in the three intensive care units (surgical, medical, cardiac) between November 2017 to April 2018.
- The knowledge and practice were assessed using a structured questionnaire developed based on the Ministry of the National Guard Health Affairs (MNGHA) administrative policies and procedures for CLABSI prevention. The questionnaire consisted of three parts; demographic, knowledge, and practice.

## FIGURE 1

- Assessing the relationship between knowledge and self-reported compliance using spearman's correlation



## RESULTS

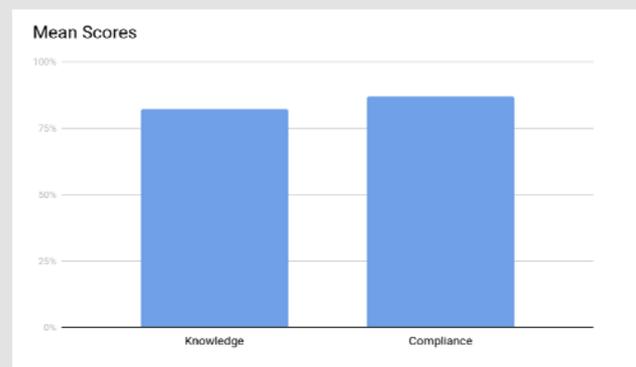
- The vast majority of the health care workers answered the questions correctly regarding the knowledge of CLABSI prevention. (Wearing maximal barrier precautions, washing Hands, using Chlorhexidine at insertion site, documenting the procedures, etc.)
- The average knowledge score among participants was 82%.
- Approximately 60% of the participants in the study have received central line training that either provided by the hospital or online course.
- Those received CLABSI bundle achieved a high mean score of 84%, whereas this score was lower in those who had not received training, 78%.
- Self-reported compliance with 10 different bundle recommendations was highest with hand hygiene, maximal barrier, and using chlorhexidine (97% each) and lowest with using the subclavian site (50%).
- The overall compliance score was 87% and was significantly higher among nurses.
- There was weak positive correlation between knowledge and practice (correlation coefficient 0.266,  $p=0.001$ ).

## CONCLUSION

- The results suggest that receiving CLABSI training is associated with better and lower complications rate.
- Educational interventions should be used to address the gaps in the knowledge and practice to facilitate prevention of CLABSI and to ensure that health care workers use evidence-based prevention interventions

## FIGURE 2

- Overall mean score of knowledge and compliance among healthcare workers in KAMC.



## REFERENCES

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