

# **A Prospective Analysis of the Preventive Practices of Healthcare Professional in the Adult Intensive Care Units of the Imam Khomeini Hospital Complex**

## **Abstract**

**Background:** Healthcare associated infections are acquired by patients while receiving care. Approximately 1.4 million people worldwide acquire a healthcare associated infection at any given time, with associated consequences of morbidity, mortality, excess healthcare cost and extra hospitalization days. Admissions to the intensive care units have been associated with the highest incidences of healthcare associated infections. Device acquired healthcare associated infection account for 75% of all healthcare associated infection. Nonetheless, adherence to evidence-based practice guidelines has been reported to be the corner stone to healthcare associated infection elimination

**Objective:** To determine the rate of adherence to evidence-based post-insertion best practices for central line catheters, indwelling urinary catheter and mechanical ventilator in five intensive care units of Imam Khomeini Hospital Complex, based on the recommendations of the Center for Disease Control and Preventions and the Society of Healthcare Epidemiology America practice guidelines.

**Method:** A prospective observational research method used to conduct study. Data were collected through structural observation using a checklist and a self-report questionnaire. 110 practitioners of 115 nurses and physicians responded to the self-report questionnaire, while 332 post-insertion care episodes were observed using the checklist.

**Results:** Overall actual adherence rate was 18.3%, 59.1% and 43.1 % for central line catheters, indwelling urinary catheter and mechanical ventilator respectively. Lack of routine surveillance of practice, insufficient nursing staffing, lack of training, and limited resources were identified as the principal reasons for non-adherence. Findings also demonstrated that self-reported adherence may sometimes be and over estimate of actual adherence.

**Conclusion:** Evidence-based post-insertion best practices were not consistently and uniformly implemented in the intensive care units. Local practice guidelines and care protocols need to be developed for the facility and routine surveillance of adherence to recommendations need to be implemented. Further studies need to be carryout to include a wider number of recommendations and of the different phases of the invasive device care.

**Keywords:** Healthcare Associated Infections, Ventilator Associated Pneumonia, Central line Associated Blood Stream Infection, Catheter Associated Urinary Tract Infection, and Clinical Practice Guideline.