



Intravenous literature: Lobo, R.D, Levin, A.S., Oliveira, M.S., Gomes, L.M.B., Gobara, S., Park, M., Figueiredo, V.B., Santos, E.V. and Costa, S.F. (2010) Evaluation of interventions to reduce catheter-associated bloodstream infection: Continuous tailored education versus one basic lecture. *American Journal of Infection Control*. 38(6), p.440-448.

#### Abstract:

**Background** - This study evaluated the impact of 2 models of educational intervention on rates of central venous catheter-associated bloodstream infections (CVC-BSIs).

**Methods** - This was a prospective observational study conducted between January 2005 and June 2007 in 2 medical intensive care units (designated ICU A and ICU B) in a large teaching hospital. The study was divided into 3 periods: baseline (only rates were evaluated), preintervention (questionnaire to evaluate knowledge of health care workers and observation of CVC care in both ICUs), and intervention (in ICU A, tailored, continuous intervention; in ICU B, a single lecture). The preintervention and intervention periods for each ICU were compared.

**Results** - During the preintervention period, 940 CVC-days were evaluated in ICU A and 843 CVC-days were evaluated in ICU B. During the intervention period, 2175 CVC-days were evaluated in ICU A and 1694 CVC-days were evaluated in ICU B. Questions regarding CVC insertion, disinfection during catheter manipulation, and use of an alcohol-based product during dressing application were answered correctly by 70%-100% HCWs. Nevertheless,

HCWs' adherence to these practices in the preintervention period was low for CVC handling and dressing, hand hygiene (6%-35%), and catheter hub disinfection (45%-68%). During the intervention period, HCWs' adherence to hand hygiene was 48%-98%, and adherence to hub disinfection was 82%-97%. CVC-BSI rates declined in both units. In ICU A, this decrease was progressive and sustained, from 12 CVC-BSIs/1000 CVC-days at baseline to 0 after 9 months. In ICU B, the rate initially dropped from 16.2 to 0 CVC-BSIs/1000 CVC-days, but then increased to 13.7 CVC-BSIs/1000 CVC-days.

Conclusion - Personal customized, continuous intervention seems to develop a "culture of prevention" and is more effective than single intervention, leading to a sustained reduction of infection rates.

