

# **Impact of Educational Intervention on Knowledge & Attitudes Regarding Prevention of Central Line Infection among ICU Nurses in Jordan**

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## **Abstract**

**Background:** Central Line-Associated Bloodstream Infections (CLABSI) represent a significant threat to patient safety, particularly in Intensive Care Units (ICUs). Despite evidence-based guidelines for CLABSI prevention, adherence remains suboptimal, particularly among ICU nurses in Jordan.

**Aim:** This study aimed to assess the impact of an educational intervention on ICU nurses' knowledge and attitudes regarding the prevention of CLABSI in Jordan.

**Methods:** A one-group pretest-posttest quasi-experimental design was employed. Fifty-two ICU nurses from two Jordanian hospitals participated. Data were collected using a self-reported questionnaire assessing knowledge and attitudes towards CLABSI prevention before and after the intervention. Statistical analyses, including paired t-tests, independent t-tests, and ANOVA, were conducted to evaluate the intervention's effectiveness and demographic influences on knowledge and attitudes.

**Results:** The mean knowledge score significantly increased from pre-intervention ( $37.34 \pm 16.95$ ) to post-intervention ( $79.49 \pm 21.73$ ) ( $p < 0.001$ ). However, there was no significant change in attitude scores between pre-intervention ( $16.44 \pm 4.16$ ) and post-intervention ( $16.38 \pm 3.46$ ) ( $p = 0.938$ ). Higher knowledge scores were observed among nurses aged 30-40 years, males, those with 6-10 years of experience, and those holding master's degrees. Attitude scores were higher among nurses under 30 years, females, those with 6-10 years of experience, and bachelor's degree holders.

**Conclusion:** The educational intervention effectively improved ICU nurses' knowledge regarding CLABSI prevention but did not significantly change their attitudes. These findings highlight the need for sustained and comprehensive training programs that address both knowledge and attitudinal components. Tailoring interventions to demographic characteristics may further enhance their effectiveness and contribute to better patient outcomes and healthcare quality.

**Recommendations:** Institutions should implement ongoing training programs that focus on both disseminating knowledge and shifting attitudes through repeated reinforcement and practical application of evidence-based practices. Additionally, fostering a supportive organizational culture that prioritizes infection prevention can enhance the overall impact of educational interventions. Regular audits, feedback mechanisms, and recognition of best practices can motivate nurses to adhere consistently to CLABSI prevention guidelines.

**Keywords:** attitude, CLABSI, educational intervention, ICU nurses, knowledge, infection prevention, Jordan.