

**Sigma's 30th International Nursing Research Congress**  
**Intensive Care Adverse Events: An Action Research Project From a Malaysian Nursing Perspectives**

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Introduction:

Many of intensive care units (ICU) adverse events; ventilator-associated pneumonia (VAP), catheter-related blood stream infection (CRBSI) and pressure ulcers (PU) can be prevented and outcomes influenced by effective nursing care ([Burston, Chaboyer, Gillespie, & Carroll, 2015](#)). Adverse events in the ICU increase costs of hospitalisation, morbidity and mortality, complicating patient recovery and prolonging length of hospital stay. Internationally, initiatives have been undertaken to reduce VAP, CRBSI and PU, ([Marchaim & Kaye, 2017](#); [McHugh, Hill, & Humphreys, 2010](#)) through promoting adherence to evidence-based guidelines ([Burrell et al., 2011](#)). Although many reports have been published in the Western world regarding clinical guidelines adherence, ([Burrell et al., 2011](#)) in developing countries, such as Malaysia, the acceptance and sustainability of prescribed clinical guidelines are less well understood.

**Purpose:**

An action research project was implemented and the impact assessed using a pretest-posttest survey of nurses and a clinical audit.

**Methods:**

The study intervention involved education regarding a key set of preventive tasks undertaken by nurses. This pretest-posttest study design sought to describe the impact of the intervention on VAP, CRBSI and PU using patient profiling and nurse surveys which consisted of validated instruments such as *Revised Professional Practice Environment* (RPPE) and *Sustainability Indices* as process evaluations of the action research method.

In this study, data were collected in three phases which were designed to follow the action research cycles. Each phase involves an action research cycle which comprised of a period of planning, acting, observation, reflecting and re-planning ([Meyer, 2010](#)). Reflective field notes based on observations and conversation with the ICU management, such as the head of department were used to monitor the process of change and reflect on the learning gained and fed back to the participants to guide subsequent action.

This study was conducted in a level 3, 17-bed medical and surgical ICU ([Ministry of Health Malaysia, 2008](#)) located in Peninsular Malaysia. Nursing services in the ICU were coordinated by five ward managers. Predominantly, the nurses were diploma or certificate-qualified. Three (3.6%) nurses had bachelor degrees and this increased to five (5.7%) in 2011. Forty two of 87 nurses had post-registration qualification in intensive care nursing.

**Results:**

The incidence of adverse events was reduced from 19.8% in the pre-intervention group to 8.7% in the post-intervention group. There was an increase in VAP identification from four (pre-intervention) to five (post intervention) cases. There was one CRBSI detected in pre-intervention phase compared to none in the post intervention period. The number of patients with PUs in post- intervention group was reduced from 16 to 6 adverse events. The reduction of number of patients with PU was statistically significant ( $\chi^2=8.14$ ,  $df=1$ ). Majority of the nurses claimed that they had good knowledge regarding prevention of ICU adverse events with 88% (pre intervention) and 78% (post intervention) of nurses scoring  $\geq 80\%$ . There was no significant difference in the level of knowledge in prevention of ICU adverse events between the pre- and post-intervention groups.

**Conclusion:**

The decreasing number of VAP, CRBSI, and PU adverse events may not attribute to the changes

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**Title:**

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**Keywords:**

Intensive care unit, adverse events and nursing

**References:**

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**Abstract Summary:**

This action research study aimed to assess the impact of a best practice implementation program on reduction of VAP, CRBSI and PU in a Malaysian ICU.

**Content Outline:**

1. Introduction
2. Aims
3. Method
4. Results
5. Conclusion

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