

Ventilator Associated Pneumonia: Impact of using Disposable Suction Liners in VAP at The Nairobi Hospital Critical Care Unit – Kenya

Margaret Wangari Muiyuro
The Nairobi Hospital – Kenya

Introduction: Ventilator-associated pneumonia (VAP) is a form of nosocomial pneumonia that occurs in patients receiving mechanical ventilation for 48 hours or longer after mechanical ventilation often caused by *Pseudomonas Auringinosa* and staphylococcus aureus. Studies have shown that aerobic gram-negative bacilli such as *P. Auringinosa*, *Acinetobacter Baumannii* or Methylene Resistant Staphylococcus Aureus (MRSA) cause 70% of the VAP infections. VAP increases morbidity and mortality to ventilated patients and is a major healthcare concern in many hospital set-ups. It is estimated that the incidence of VAPs ranges between 5–20 cases per 1,000 of mechanical ventilation (MV) days. Studies show that mortality in ICU is four times higher (18.5%) in patients with VAP than those without (4.5%). Consequently, the problem has substantial cost implications including extended ICU length of stay by at least 6 days and costs by up to £12 000 per patient episode. Many interventions to reduce VAP have been implemented in the Nairobi Hospital, as it has been in many other healthcare institutions around the globe. However, what is not conclusively clear is whether the use of disposable suction liners reduces the incidence of VAP among patients on mechanical ventilation in The Nairobi Hospital Intensive Care Unit.

Methodology: The study utilized Case control study design as it is easy to conduct, can be done retrospectively, and useful in rare conditions. The study sampled from Infection Control Unit's, medical records data of patients admitted in the critical care unit during the periods before the intervention (2012-2013) and those after the intervention (2014-2015).

Results and Discussion: This retrospective case study on whether the use of disposable suction liners reduced VAP at the Intensive Care Unit. A sample of 626 patients was done, among them 324 used the reusable suction bottles and 302 used disposable suction liners. The VAP rate with the reusable suction bottles was at 21.3% and with the use of the disposable suction liners was at 2.3%. It was observed that with a P value was at .000, there is a significant of reduced VAP incidences when disposable suction liners are used to ventilated patients in critical care units.

Conclusion/Recommendations: The study concluded that certain known practice like early gastric feeding; nasal intubation in preference to other modes of intubation and isolation practice reduced the risk of VAPs in ventilated patients in critical care units. These practices should be enhanced when and as applicable in all ventilated patients. Importantly, the use of disposable suction liners had the best outcome of reduced VAPs in ventilated patients and therefore was highly recommended.

Biography:

Margaret Wangari Muiyuro is a Senior Registered Critical Care Nurse at the Nairobi Hospital in Kenya. She is a infection control Liaison nurse since 2011 at the ICU Nairobi hospital. She is very passionate in infection control at the ICU, Hospital level and community level. During her time hospital acquired infections has greatly reduced as per the monthly infection control report.

She is a graduate of the Roehampton University MPH (United Kingdom), Registered Critical Care Nurse from Cicelly Mc Donell school of nursing (Kenya), Infection control Nurse from National Cheng Kung University (Taiwan) and Registered nurse from Cicelly Mc Donell of Nursing (Kenya). She has 12 years working experience as a nurse. She is passionate in critical care nursing and believe in evidence based practice. QUALITY patient's care to her can reduce mortality in ICU and the patients hospital stay.