A clinical audit on enhanced aftercare for patients receiving endotracheal intubation in Accident and Emergency Department

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Introduction
In Accident & Emergency Department, it is not uncommon to encounter patients in critical status requiring emergency airway control with rapid sequence induction (RSI) and endotracheal intubation. A comprehensive post intubation care plan is essential to alleviate patient’s discomfort and minimize complications like ventilator-associated pneumonia (VAP) which was associated with significant morbidity and tremendous hospital cost. A complete clinical audit was conducted to review the performance followed by an enhancement program.

Objectives
To evaluate the post-intubation care standard followed by improvement measures to enhance the care standard and minimize complications.

Methodology
All patients who had received RSI and intubation from June to November 2014 were reviewed as baseline. The outcome index measured were cuff-pressure measurement, rate of use of analgesic and sedatives and VAP rate. A series of interventions and improvement measures were adopted in June 2015, including setting up a departmental guideline, standardized checklist, preparation of necessary equipment, education, setting up of surveillance and audit system. The interventions included routine measurement of cuff-pressure, sterile tube handing, administration of adequate sedatives, analgesics and neuromuscular blockers and a series of measures for VAP prevention. The protocol also provided guidance on the initial ventilator settings for standardization of care. A post-interventional audit was then carried out from June to November 2015.

Result
The audit included 47 and 53 patients before and after intervention respectively. No cuff pressure measurement was done before the intervention while 81% had cuff measurement after the intervention (p<0.001). Sedation was given in 14 out of 47
(29.8%) in pre-interventional group and 30 out of 53 (56.7%) in post-interventional group (p=0.007). Analgesic was given in 3 out of 47 (6.4%) in pre-interventional group and 22 out of 53 (41.5%) in post interventional group (p<0.001). Without adjustment of confounders and limited sample size, the incidence of VAP did not have significant difference with 6.4% (3 out of 47) in pre-interventional group and 9.4% (5 out of 53) in post-interventional group (p=0.575). An audit on comprehensive post-intubation care improved the quality of care and it is recommended to continue audit and surveillance on the VAP rate.