

## VENTILATOR ASSOCIATED PNEUMONIA BETWEEN CHILDREN USING DISPOSABLE AND NON-DISPOSABLE VENTILATOR CIRCUIT

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### Objectives:

To compare the rate of ventilator associated pneumonia (VAP) and the expense of ventilator circuit between children using disposable and non-disposable ventilator circuits.

### Methods:

A prospective randomized controlled trial was conducted at pediatric intensive care unit (PICU), Queen Sirikit National Institute of Child Health from 2011 to 2012. Children aged between 1 month and 18 years who were ventilated more than 48 hours were enrolled. The patients were randomly assigned to one of two groups using disposable or non-disposable ventilator circuit.

### Results:

There were 98 patients enrolled, of which 48 using disposable and 50 using non-disposable ventilator circuits. The total VAP rate was 13.68/1,000 ventilator days. There was no significant difference of VAP rate between the disposable and non-disposable circuit groups (8.80/1,000 and 17.95/1,000 ventilator days, respectively) ( $p = 0.93$ ). The mortality rate in the disposable group (2.1%) was significantly lower than the non-disposable circuit group (12%) ( $p = 0.04$ ). No significant difference of VAP risk factors (PICU length of stay, ventilator day, use of sedatives, antimicrobial, H<sub>2</sub>-blocker, or nasogastric tube insertion) between both circuit groups was found. The total ventilator circuit expenses of the disposable and non-disposable groups were not different ( $p = 0.58$ ).

### Conclusions:

There was no significant difference in VAP rate and the ventilator circuit expense between patients using disposable and non-disposable ventilator circuits.