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Effect of chlorhexidine bath on the prevention of ventilator associated pneumonia: A meta-analysis - Mark Jay M Robles - university of Santo Tomas Hospital

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Introduction & Objective: Ventilator Associated Pneumonia (VAP), defined as pneumonia occurring more than 48 hours after patients have been intubated and received mechanical ventilation, represents one of the most important nosocomial infections in critically ill patients. Chlorhexidine, an antiseptic solution, is a safe and effective product with broad antiseptic activity. This meta-analysis would like to investigate if chlorhexidine bathing significantly reduced the incidence of ventilator associated pneumonia.

Method: We searched PubMed and Cochrane Central Register database to check for all published studies related to the reduction of VAP with application of chlorhexidine bath versus control. Various study designs such as randomized controlled trials, before-and-after study were included in this meta-analysis.

Results: This meta-analysis analyzed eight studies. One hundred thirty nine (139) events developed in the chlorhexidine group over 33,030 patient-days which were significantly lower compared to 183 in the soap and water group over 35,213 patient-days. The overall incidence of ventilator associated pneumonia with the application of chlorhexidine was significantly reduced by 23% with a pooled Risk Ratio (RR) of 0.77 with 95% Confidence Interval (CI): 0.62-0.96; I2=52%. In the subgroup analysis, a more significant outcome was observed using before-and-after study as the research design (pooled RR 0.63, 95% Confidence Interval (CI): 0.48-0.83, I2=31%). Daily chlorhexidine bath generated a more favorable outcome, compared to every other day application as evident on the pooled RR 0.78, 95% Confidence Interval (CI): 0.62- 0.98, I2=59%.

Conclusion: This meta-analysis clearly favors the use of daily chlorhexidine bath in the prevention of ventilator associated pneumonia.

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