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**Preoperative nasopharyngeal decolonization using mupirocin and chlorhexidine in preventing surgical site infection: A meta-analysis**

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**Background:** Preoperative decolonization is a preventive strategy for surgical site infection. Clinical trials have been done to prove or disprove the efficacy of decolonization in the prevention of surgical site infection. However, great heterogeneity in results was noted in many published studies.

**Objective:** We assessed whether preoperative decolonization reduces the risk of surgical site infection.

**Method:** PubMed and Google free texts search terms: decolonization and surgical site infection inclusion criteria:  $\geq 18$  years old of either gender undergoing any surgery, may or may not screened for carriage of *S. aureus*; studies are randomized controlled trial (RCT).

**Results:** Using the random effects model, the computed summary statistic was 0.59 with CI 0.37-0.94 in favor of the experimental treatment. However, due to substantial heterogeneity (Tau<sup>2</sup> of 0.25 Chi<sup>2</sup> 30.34 and I<sup>2</sup> of 84%), we cannot draw definite conclusion from the meta-analysis. Subgroup analysis using both mupirocin nasal swab and chlorhexidine gargle were used for preoperative decolonization, the summary statistic generated was 0.40 with 95% CI of 0.23-0.69, with no heterogeneity (Tau<sup>2</sup> of 0, Chi<sup>2</sup> of 0.09 and I<sup>2</sup> of 0.) and was noted to be in favor of the experimental treatment.

**Conclusion:** Pre-operative decolonization using both mupirocin and chlorhexidine for preoperative decolonization showed that it could significantly prevent surgical site infection.

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