The objective of this review was to compare the effectiveness of connector decontamination with 70% alcohol wipes, alcoholic chlorhexidine gluconate wipes, or alcohol impregnated caps to prevent catheter-associated bloodstream infection (CABSI)” Flynn et al (2019).

Abstract:

Background: The objective of this review was to compare the effectiveness of connector decontamination with 70% alcohol wipes, alcoholic chlorhexidine gluconate wipes, or alcohol impregnated caps to prevent catheter-associated bloodstream infection (CABSI).

Methods: A systematic search was conducted in CINAHL, Cochrane Central Register of Controlled Trials, Medline, and PubMed. The primary outcome was CABSI, with randomized and observational studies included. The inclusion criteria were: English language, any age group, no date limitations, and reporting connector decontamination interventions to prevent CABSI. The exclusion criteria were: multimodal interventions, letters, and conference abstracts. Quality assessment with the Newcastle-Ottawa Scale, a narrative synthesis, and meta-analysis were conducted. Pooled data used a random effects model for pair-wise comparisons, due to clinical heterogeneity. Statistical heterogeneity was investigated by visual model inspection, χ², and I² statistics.
Results: Ten studies compared 70% alcohol wipes with 70% alcohol-impregnated caps, and 2 studies (n = 1,216) tested an alcoholic chlorhexidine gluconate wipe. Alcoholic chlorhexidine gluconate wipes were associated with significantly less CABS-I than 70% alcohol wipes (risk ratio, 0.28; 95% confidence interval, 0.20-0.39). Alcohol-impregnated caps were associated with significantly less CABS-I than 70% alcohol wipes (risk ratio, 0.43; 95% confidence interval, 0.28-0.65). Studies were of low to moderate quality.

Conclusions: Alcohol impregnated caps and alcoholic chlorhexidine gluconate wipes were associated with significantly less CABS-I than 70% alcohol wipes. This requires confirmation in randomized controlled trials.

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