This study provides preliminary evidence for the validity of the DIVA score when applied to IVs placed by emergency department technicians” Shaukat et al (2020).

Abstract:

Background: The DIVA score is validated for predicting success of the initial attempt at peripheral intravenous insertion by nurses and physicians. A score of 4 or greater is 50% to 60% likely to have a failed first attempt. The study objective was to assess the validity of this score for emergency department technicians.

Methods: This study used a prospective convenience sample of 181 children presenting to the emergency department with intravenous access attempt by one of 29 emergency department technicians. DIVA score, total number of attempts, and median time to successful intravenous cannulation were obtained.

Results: Comparing patients with a DIVA score <4 to ≥4, first-time IV placement failure rates were lower (9% [95% CI, 3–24] vs. 41% [95% CI, 33–49]) and median time to IV placement was shorter (75 vs. 254 ) seconds. In patients with scores ≥4, emergency department technicians with ≥5 years of experience were significantly more likely to be successful on the first attempt (OR 2.8; 95% CI, 1.03–7.63). For every year of technician experience, the time to catheter placement, adjusted for DIVA score, decreased by 25 minutes (P≤0.05, R2=0.05). Comparing our receiver operating curve to the derivation study, the areas were similar (0.67 vs. 0.65). Conclusions: This study provides preliminary evidence for the validity of the DIVA score when applied to IVs placed by emergency department technicians. For patients with high DIVA scores, ≥5 years of IV experience was associated with higher odds of successful first-time IV placement and shorter time to placement.

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