Peripheral intravenous catheterization using vein visualization device support reduces the number of attempts per patient and the operation duration but increases the rate of first stick success”

Demir and Inal (2017).

Abstract:

BACKGROUND: Peripheral intravenous catheterization is one of the most frequently encountered medical procedures for hospitalized children and is one that can often be painful. Pediatric nurses should therefore use techniques that increase the success rate or shorten the duration of peripheral intravenous catheterization.

OBJECTIVES: This study was performed with the objective of determining the effect of using a vein visualization device on the success of the procedure. Success was determined based on the number of attempts per patient, the duration of the procedure, and the first stick success rate.

METHODS: This was a randomized, controlled experimental study on 129 children aged 3 to 18 years.

RESULTS: The duration of peripheral intravenous catheterization was shorter in the study group (S) than in the control (C) patients (37.24 ± 20.07 vs 172.65 ± 153.21 seconds; P = 0.001), with fewer attempts (S, 1.08 ± 0.28; C, 2.23 ± 1.57; P < 0.01). The first stick success rate was higher in the control group (S, 91.7%; C, 47.4%; P = 0.001).

CONCLUSIONS: Peripheral intravenous catheterization using vein visualization device support reduces the number of attempts per patient and the operation duration but increases the rate of first stick success. We may therefore state that vein visualization device support improves the success of peripheral intravenous catheterization.
Reference:


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