To determine the factors affecting the first-attempt success of peripheral intravenous catheter (PIVC) placement in older emergency department patients” Yalçınlı et al (2019).

Abstract:

AIMS AND OBJECTIVES: To determine the factors affecting the first-attempt success of peripheral intravenous catheter (PIVC) placement in older emergency department patients.

BACKGROUND: In older patients who require intravenous treatment, establishing a PIVC as fast as possible is clinically important.

DESIGN: This is a prospective, observational, descriptive study.

METHODS: Using a data collection form, researchers questioned both the patient and the nurse performing the procedure in terms of patient- and operator-related factors. This study followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines (See Supplementary File 1).

RESULTS: A total of 472 patients were included in the final analyses. According to the logistic regression analysis, independent factors which affected first-attempt failure were found to be: choosing a non-upper extremity site for PIVC (OR: 4.72, 95% CI: 1.35-16.45, p-value: 0.015), history of difficult intravenous access (OR:3.02, 95% CI: 1.72-5.29, p-value: <0.001),
nurse having less than 2 years of professional experience (OR: 3.45, 95% CI: 2.00-5.97, p-value: < 0.001), non-palpable veins observed after the application of tourniquet (OR: 2.21, 95% CI: 1.10-4.41, p-value: 0.025), a moderate degree of difficulty anticipated by the nurse prior to the procedure (OR: 4.32, 95% CI: 2.31-8.08, p-value: <0.001), a high degree of difficulty anticipated by the nurse prior to the procedure (OR:8.41, 95% CI: 4.10-17.24, p-value: <0.001). CONCLUSION: Factors affecting first-attempt success rates in peripheral intravenous catheter placement in older emergency department patients may be listed as follows: the anticipated difficulty of the procedure rated by the nurse, previous history of a difficult intravenous cannulation, choosing a non-upper extremity site for cannulation, the level of experience of the nurse, and the palpability of the vein. RELEVANCE TO CLINICAL PRACTICE: Healthcare providers should consider alternative methods in the presence of factors affecting first attempt success in older emergency department patients.

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