

Abstract:

Background: Peripheral intravenous catheters (PIVCs) are the most widely used invasive devices worldwide. Up to 42% of PIVCs are prematurely removed during intravenous therapy due to failure. To date, there have been few systematic attempts in European hospitals to measure adherence to recommendations to mitigate PIVC failures.

Aim: To analyse the clinical outcomes from clinical practice guideline recommendations for PIVC care on different hospital types and environments.

Methods: We conducted an observational study in three hospitals in Spain from December 2017 to April 2018. The adherence to recommendations was monitored via visual inspection in situ evaluations of all PIVCs inserted in adults admitted. Context and clinical characteristics were collected by an evaluation tool, analysing data descriptively.

Results: 646 PIVCs inserted in 624 patients were monitored, which only 52.7% knew about their PIVC. Regarding PIVC insertion, 3.4% (22/646) patients had at least 2 PIVCs simultaneously. The majority of PIVCs were 20G (319/646; 49.4%) and were secured with transparent polyurethane dressing (605/646; 93.7%). Most PIVCs (357/646; 55.3%) had a free insertion site during the visual inspection at first sight. We identified 342/646 (53%) transparent dressings in optimal conditions (clean, dry, and intact dressing). PIVC dressings in medical wards were much more likely to be in intact conditions than those in surgical wards (234/399, 58.7% vs. 108/247, 43.7%). We identified 55/646 (8.5%) PIVCs without infusion in the last 24 hours and 58/646 (9.0%) PIVCs without infusion for more than 24 hours. Regarding PIVC failure, 74 (11.5%) adverse events were identified, all of them reflecting clinical manifestation of phlebitis.

Conclusions: Our findings indicate that the clinical outcome indicators from CPG for PIVC care were moderate, highlighting differences between hospital environments and types. Also, we observed that nearly 50% of patients did not know what a PIVC is.

Reference:

Blanco-Mavillard I, Parra-García G, Fernández-Fernández I, Rodríguez-Calero MÁ, Personat-Labrador C, Castro-Sánchez E. Care of peripheral intravenous catheters in three hospitals in Spain: Mapping clinical outcomes and implementation of clinical practice guidelines. *PLoS One*. 2020 Oct 2;15(10):e0240086. doi: 10.1371/journal.pone.0240086. PMID: 33007001; PMCID: PMC7531784.



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