



To determine the incidence, severity and risk factors of peripheral intravenous cannula-induced complications” Simin et al (2018).

Abstract:

AIMS AND OBJECTIVES: To determine the incidence, severity and risk factors of peripheral intravenous cannula-induced complications.

BACKGROUND: Peripheral venous cannulation in hospitalized patients may cause complications such as phlebitis, infiltration, occlusion and dislodgement. A review of the literature reveals the discrepancy in their incidence and identification of a wide range of risk factors, whereas the data on the occurrence and degree of severity are insufficient.

DESIGN: An observational-prospective study.

METHODS: The study observed 1428 peripheral intravenous cannula insertion among 368 adult patients hospitalized at the tertiary health care clinics. The data collection and analysis included: patients’ medical data, the data related to each cannula (including placement, monitoring, and the reasons for removal), as well as the data on the type of administered medications and solutions. Reporting of this research adheres to the STROBE guidelines.

RESULTS: Phlebitis ranked first among complications with occurrence of 44%, followed by infiltration of 16.3%, while the incidence of occlusion and catheter dislodgement was 7.6% and 5.6%, respectively. In assessing the occurrence of phlebitis multivariate analysis

highlighted: the presence of comorbidity, current infection, catheter size, time in situ and the number of administrations of infusion solutions associated with risk, whereas 20 gauge catheter, two or more attempts at cannulation and administration of a high-risk solutions during the first day have been singled out with regard to infiltration. As for the severity the most common was medium stage of phlebitis, whereas Grade 2 was most commonly observed for infiltration.

CONCLUSION: The incidence of infiltration, occlusion and dislodgment is almost congruent with the average incidence of previous studies. However, the incidence and degree of severity associated with the occurrence of phlebitis were significantly higher.

RELEVANCE TO CLINICAL PRACTICE: The results of the study draw attention to vulnerable groups of patients, cannula specific and pharmacological risk factors for the development of peripheral intravenous cannula-induced complications.

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Reference:

Simin, D., Milutinović, D., Turkulov, V. and Brkić, S. (2018) Incidence, severity and risk factors of peripheral intravenous cannula-induced complications: an observational-prospective study. *Journal of Clinical Nursing*. December 27th. .

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