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Prospective Surveillance of Peripheral Intravenous Cannula Site Phlebitis among Patients Admitted to Medical and Surgical Wards at University Hospital Kotelawala Defence University, Sri Lanka

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Abstract

Phlebitis is a common complication associated with Peripheral Intravenous Catheters (PIVC) usage and may cause adverse outcomes to the patient. The current study was aimed to determine the PIVC site phlebitis incidence and associated factors contributing to the development of phlebitis. A hospital-based prospective observational study was conducted among patients admitted to medical and surgical wards of the University Hospital of Kotelawala Defence University in Sri Lanka for three months duration, by observing patients throughout the hospital stay using interviewer administered questionnaire. The presence and severity of phlebitis were identified by Jackson's Visual Infusion Phlebitis (VIP) standard Scoring System. Descriptive statistics were performed, and significant value <0.05 was considered as statistically significant. A total of 313 patients with 459 PIVCs were observed for 1890 cannulation days. The average patient age was 56.97 ± 19.907 and the population consisted of 54.3% (n=170) males. The incidence of phlebitis was n/N (45.97%) while the incident rate was 112 phlebitis incidences per 1000 PIVC days. Grade 1 and 2 phlebitis were noticed in 99/459 (21.56%) and 67/459 (14.59%), respectively. Developing phlebitis was significantly associated ($p < 0.05$) with female gender, unemployed workers, duration of hospital stays > 3 days, frequency of drug or fluid administration > 3 times/ day, size of the 1st cannula and cannula days > 72- 96 hours. The incidence of phlebitis was significantly higher ($p < 0.05$) than the acceptable level set by the Infusion Nurses Society which is 5% or less. Appropriate interventions, infection control measures and avoiding modifiable risk factors such as inappropriate cannula size selection and longer cannula duration may lower the incidence of phlebitis.

Keywords: *Phlebitis, Peripheral intravenous catheters, Incidence*