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Study on phlebitis status of the patients after Peripheral Venous Cannula insertion in Moneragala District General Hospital

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Peripheral Venous Cannula (PVC) insertion is a method in which the cannula is inserted through a peripheral vein. These PVCs are used predominantly to deliver different medications such as drugs, blood products, dyes and contrast media into the body. There are many complications associated with PVC which sometimes can lead to death. The most common complications are infections and phlebitis. This study was conducted to find the potential factors that are associated with the phlebitis status of the patients at the Moneragala District General Hospital. The data used in this study was obtained from the National Intensive Care Surveillance (NICS) Ministry of Health, Sri Lanka. The data were collected in the period of November to December 2017 and March to April 2018. The dataset was comprised of 523 observations. Visual Infusion Phlebitis (VIP) score was the measurement, used to measure the status of phlebitis of the patients, which is a standard score. It scales from 0 to 5 where 0 indicates no phlebitis and 5 indicating the serious stage of phlebitis. Initially, descriptive analysis was conducted to determine the important patterns of the data then Kruskal Wallis test and Pearson Correlation test were used to find the factors associated with the VIP score. 21.4% of the patients considered in the study resulted in phlebitis with 15.49% of the patients with VIP score 1 and 5.93% patients with VIP score more than 1. The Kruskal Wallis test resulted that the ward, size of cannula, type of dressing, intravenous medications are the variables that yield a significant association on the occurrence of phlebitis at 5% level of significance and the variable age was found to be significant at 5% level of significance from the Pearson Correlation Test. Results showed that the patients who sited their cannula in the wrist were highly infected compared to the patients who sited the cannula in the hand or forearm. Also, PVC inserted to the right side resulted in the inflammation more than to the left side. Findings also revealed that the patients who inserted a yellow colour and grey colour PVCs have not resulted with phlebitis but the patients who inserted a green colour and pink colour PVCs have resulted with first stage of phlebitis. In addition, patients that used a tape to dress the PVC were highly infected compared to the patients who used a bandage. Surprisingly, phlebitis resulted more on the patients who didn't transfer intravenous medications into the body through the PVC. Furthermore, the median age of the patients who resulted phlebitis (50 years) was higher compared to the non-inflamed patients showing that there is a high risk of developing phlebitis in the older community. In conclusion, ward, age, cannula size, type of dressing and intravenous medications has an association on the development of phlebitis according to this study. Therefore, hospitals should adopt appropriate guidelines in order to minimize the risk of developing inflammation.

Keywords: Cannula, Phlebitis