

# REASONS FOR INTERRUPTION OF DRUG ADMINISTRATION IN PATIENTS WITH CENTRAL VENOUS CATHETERS

## Background

In addition to providing ease of use during long-term fluid replacement or administration of various drug derivatives, central venous catheters (CVCs) are the most interrupted way during administration compared to other catheters [1]. Approximately 10% to 66% of nurses cause interruptions in drug administration via CVCs [2].

## Aim(s)

This study was conducted in a cross-sectional and observational type to determine the reasons for the interruption of drug administration in patients with CVCs.

## Methods

The study population consisted of adult patients with a CVC in the surgery and internal medicine clinics of a hospital in Istanbul between 2020-2021. Its sample was 168 patients determined with power analysis. The inclusion criteria were 18 years of age and older, having a CVC inserted, administering medication through a CVC during hospitalization, and staying in the clinic for at least 24 hours [1,2]. Study data were collected using the Patient Information Form, Central Venous Catheter, Treatment Information Form, Treatment Follow-up Form for Patients with CVCs, and Katz's Activities of Daily Living Scale. Ethical approval was obtained from the ethics committee (approval code: 85693). Interruptions in drug administration, frequency of interruptions, and reasons for interruptions in both shifts within 24 hours were determined by the researcher and recorded in the related forms. Data analysis was performed using the Mann-Whitney U test, Kruskal-Wallis H test, Spearman correlation, and Bonferroni post hoc test.

## Results

The patients' mean age was  $62.11 \pm 4.21$  years, and 50% had an internal jugular vein. In the 08:00 am-06:00 pm shift, 94% of the patients applied fluid, 34.8% applied total parenteral nutrition (TPN) and 94.4% were given medicine while at 6:00 pm-08:00 am shift, 59.5% of the patients were applied fluid, 48% were applied TPN, 95.8% were given medicine. In the 08:00 am-06:00 pm shift, all of the patients had a fluid interruption, 75.3% experienced physician-induced fluid interruption, 34.8% had problems due to the CVC, 71.3% had no interruption in drug administration, the reason for the interruption in 7.3% was problems related to the infuser and in 11% the source of interruption was other reasons. At the 06:00 pm-08:00 am shift, 79% of the patients had a fluid interruption, in 35% of them transfusions were the reason for the interruption in fluid treatment, in 48% the reason was patients. In 91.3% of them, treatment was not interrupted; in 26.7 of them, the reason for interruption was symptoms patients experienced; in 6.2% of them, the source of interruption was the patient. A statistically significant difference was found in terms of the mean Katz's Activities of Daily Living Scale scores of the patients who did not experience medication interruption in the 08:00 am-06:00 pm and 06:00 pm-08:00 am shifts ( $p < 0.05$ ).

## Discussion

It was determined that medication applications of patients with CVCs were interrupted during their time in the clinic and various factors were effective in the interruption. According to the research findings, although liquid and drug applications are applied more intensively at 08:00-18:00, all the procedures performed by the healthcare team members are carried out uninterruptedly at full capacity [3].

## Implications and future perspectives

Interruptions favor the occurrence of errors in the health field [3]. This study shows a scarcity of papers addressing interruptions during the practice of nurses, which may be related to the absence of a descriptor for this topic that is used worldwide.

## References

1. Bower, R., Jackson, C., and Manning, J. C. 2015. Interruptions and medication administration in critical care, *Nursing in Critical Care*, 20(4), 183-195.
2. Cooper, C., Tupper, R. and Holm, K. 2016. Interruptions during medication administration: a descriptive study. *Medsurg Nurs.*, 25(3), 186-191.
3. Craig, J., Clanton, F. and Demeter, M. 2013. Reducing interruptions during medication administration: the White Vest study, *Journal of Research in Nursing*. 1-14.