

Impact of an Integrative Clinical Pharmacy Model on the Occurrence of Complications in Patients implanted with a PICC Line

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Abstract

Background Clinical pharmacy is an effective pharmaceutical discipline in drug therapy management and in preventing iatrogenic events. Clinical pharmacy studies in the medical device context are, however, rare in the current literature. **Purpose** The purpose of this study is to prove that clinical pharmacy is effective in the medical device context by reducing PICC line complications post-implantation. **Methods** CLIPICC is a prospective before-and-after single-centre study conducted in a University Hospital. The study comprised two successive phases: an initial observational phase (OP), where no clinical pharmacy activities were carried out, followed by an interventional phase (IP), where clinical pharmacy activities were implemented along the patient's hospital and primary care pathway. The key outcome of the study was the number of complications per month and per patient in each phase. Comparisons were made using negative binomial regression. Univariate and multivariate analyses were performed with R software. **Results** A total of 138 patients were enrolled in the study. In the OP, 40 patients (59.7%) presented at least one complication with 80 complications being recorded overall in 67 patients. In the IP, 30 patients (45.5%) had at least one complication with a total of 39 complications documented in 66 patients. The number of complications per patient and per month was halved in the interventional phase. **Conclusion** Clinical pharmacy interventions along the entire care pathway are effective in preventing complications following implantation of PICC lines. Trial registration: NCT04359056.

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