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Impact of clinical pharmacist educational intervention on the potential drug-drug interactions in surgical intensive care unit

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Objective: ICU patients are at high risk of drug-drug interactions. In Egypt there is no sufficient data about the incidence of drug interactions. This study aims to explore the frequency and pattern of potential drug-drug interactions (PDDIs) and to study the impact of clinical pharmacist educational intervention on the (PDDIs) in the surgical intensive care unit.

Methods: A three phase study, phase (1) (pre-intervention phase) was a retrospective cohort study of the frequency of potential DDIs in 500 prescriptions of patients in the surgical ICU using Lexi-Interact interaction database. Phase (2) (intervention phase) involved the implementation of DDIs reducing measures. Phase 3 (post-intervention phase) was a prospective study of the frequency of potential DDIs in the 500 prescription collected after intervention phase (phase 2).

Results: A total of 2228 PDDIs were identified during phase 1 and 2139 PDDIs were identified during phase 3. In both phases most of the PDDIs encountered were of 'Moderate' severity (89%) of the PDDIs during phase 1 and 91.5% during phase 3 were of risk rating C. There was no statistical difference between the mean number of PDDIs in pre-intervention and post-intervention phases ($P=0.859$). There was no statistical difference in percent of PDDIs in the different degrees of severity between pre-intervention and post-intervention phase ($Z=-1.4$, $P=0.153$).

Conclusion: The present study demonstrated a relatively high frequency of occurrence of PDDIs among patients in surgical ICU. However, most of them were of minor-to-moderate clinical significance.

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