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CLINICAL INTERVENTIONS PROPOSED BY A PHARMACIST IN THE INTENSIVE CARE UNIT

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Background

Patients admitted to the Intensive Care Unit (ICU) are at increased risk of adverse drug events due to underlying comorbidities, organ dysfunction and pharmacokinetic alterations in addition to being prescribed almost twice as many medications as patients in general hospital wards[1]. The role of the pharmacist in this setting has developed considerably and includes working as a part of the multi-disciplinary team providing several clinical services[2]. Locally, clinical pharmacy services were limited in ICU.

Objective

The aim of this study was to assess the interventions of a pharmacist in ICU by quantifying and categorising drug-related problems (DRPs) identified by, and determining the frequency and type of clinical interventions suggested by a pharmacist introduced in ICU.

Design

The study was carried out over 8 weeks in ICU of an acute general hospital in Malta, during which the pharmacist reviewed medication charts of patients admitted to ICU and identified DRPs.

DRPs and suggested pharmaceutical interventions (PIs) were discussed with ICU clinicians or nurses depending on type of PI, and the outcome was recorded.

All data was recorded in a previously validated, adapted, and piloted data collection tool[3].

Data was classified into type of DRP and PI, therapeutic class, and outcome relating to acceptance and implementation of PIs.

Results

During the study period, medication charts of 124 ICU patients were reviewed. The pharmacist identified 161 DRPs in 54 patients and suggested a PI for each DRP.

The most frequently identified DRP categories were 'administration related' (29%), 'supratherapeutic dosage' (20%) and 'drug monitoring' (18%). The most common categories of suggested PIs were 'dose adjustment' (34%) and 'administration optimisation' (29%) (Figure 1).

Antimicrobials (46%) and medications acting on the central nervous system (17%) were the therapeutic classes most frequently involved in DRPs. The ICU clinical team accepted and implemented 95% of PIs suggested by the pharmacist (Figure 2).

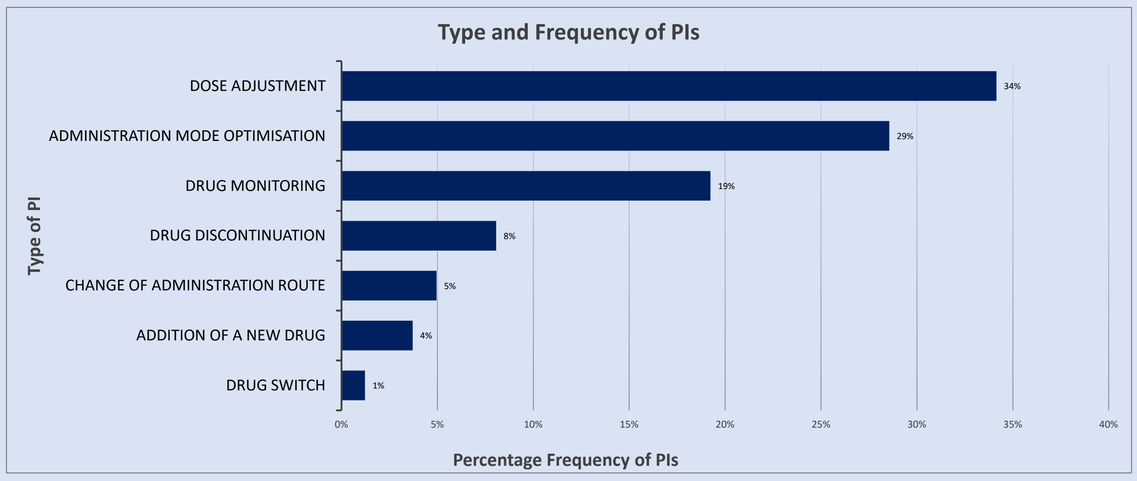

Figure 1: Type and Frequency of PIs suggested by pharmacist

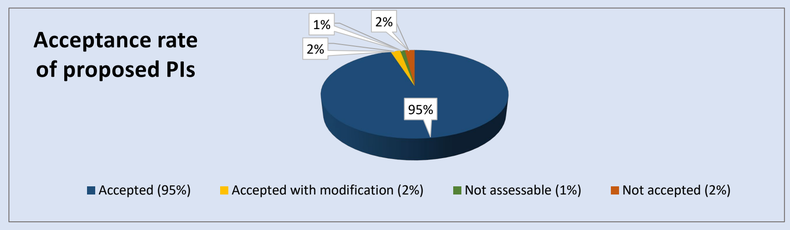

Figure 2: Acceptance Rate of PIs suggested by pharmacist

Conclusion

This research demonstrated the value of introduction of a pharmacist within ICU. The high rate of accepted PIs concerning a wide range of DRPs demonstrate that advanced collaboration between a pharmacist and the ICU team is possible. The proposed clinical interventions by the pharmacist reflect the contribution of the pharmacist to the reduction of DRPs in critically ill patients, thus, optimising treatment for these patients.

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