

PHARMACEUTICAL SUPPLY CHAIN IN PANDEMIC TIMES: CRISIS IN THE SUPPLY OF NEUROMUSCULAR BLOCKERS USED IN INTUBATION PROTOCOLS

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Introduction

The new coronavirus pandemic caused by SARS-COV-2 has already shown 24,316,245 cases in the world, and until August 2020 there were 3,862,311 confirmed cases in Brazil and 120,828 deaths (BRASIL, 2020). The first reported case of infected patients occurred in Wuhan city, in China in December 2019, described as a severe acute respiratory syndrome, which after isolation was identified as a new virus, which has a genetic similarity to other coronavirus and that is why it was denominated as COVID-19 (ZOU, 2020). During the pandemic, with the involvement of severe respiratory complications resulting from the disease, it was necessary to manage seriously infected patients who needed oxygen supply, with intubation and maintenance procedures in extra-corporeal ventilatory support, with the use of respirators. In this context, drugs needed to be used by intensivists for this group of patients, such as neuromuscular blockers, that are drugs used as facilitating agents to perform orotracheal intubation, decreasing the risk of laryngeal injury and maintaining the patient in the ICU (KIM, 2017). The management of a Pharmaceutical Supply Center, in the context of Pharmaceutical Assistance, with programming, acquisition and storage activities, requires rapid support actions in supply logistics, to meet the demands of standardized medicines in hospital institutions. In this reported pandemic scenario, actions to deal with medication shortage are fundamental, due to their increasing consumption in hospitals with an increase of ICU beds for the hospitalization of patients affected by the disease and who require intubation. Therefore, the aim of this study is to analyze the significant change in the use of these neuromuscular blockers used in intubation procedures during the COVID-19's pandemic, leading to the necessity of adopting protocols and new practices in service, in order to avoid their abrupt shortage in the Pharmaceutical Supply Chain in a large-sized hospital.

Method

A cross-sectional, retrospective study was done from May 1st 2020 to June 1st 2020, covering the ICU's admission peak in a high complexity military hospital located in the city of Rio de Janeiro.

Inventory control sheets from the Pharmaceutical Supply Center were used to evaluate the demand for neuromuscular blockers used in intubation procedures. Three drugs will be emphasized: rocuronium, atracurium and cisatracurium.

Results / Discussion

Results demonstrated an increase in demand during the sampling period used in the study. With atracurium there was an increase consumption by 384%, cisatracurium increased 333% and rocuronium increased 167%. During the period of study, actions to deal with changes in demands were carried out, such as: meetings, daily reassessment of consumption and fast actions to supply the storage of the referred drugs as exchanges and loans with other public agencies. It is noteworthy that in times of stock reduction, interchangeability between drugs was carried out, which may have triggered an increase in consumption of atracurium. After the peak, this demand decreased over the months of June, July and August. The adopted strategies avoided the shortage and discontinuity of protocols that could impact on the reduction of the pharmaceutical assistance of infected patients in need of ventilatory support with endotracheal intubation.

Conclusion

The management of a Pharmaceutical Supply Center requires actions in the storage and programming management to avoid a "gap" in communication between the entities involved in the supply process. Rapid action during the pandemic was extremely important to meet the needs and prevent shortages. Through these actions, it was possible to be successful in avoiding total shortages in the hospital providing the necessary treatment available to patients affected by the disease. More in-depth studies and statistical analyzes will be carried out later.

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