

PHARMACOECONOMICS EVALUATION OF IMPLANTATION THE SELECTIVE DIGESTIVE TRACT DECONTAMINATION FOR PREVENTION OF VENTILATOR-ASSOCIATED PNEUMONIA IN A CRITICAL CARE UNIT

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BACKGROUND

Selective decontamination of the digestive tract has been proven to be the best measure to prevent Ventilator-Associated Pneumonia (VAP) and the only one that has demonstrated modest reductions in mortality. The preparations are typically non-absorbable, topical admixtures of antibiotics with broad-spectrum activity administered either orally and/or enterally applied as an oropharyngeal paste (OP), or as a suspension (decontamination of the digestive tract suspension, DDS).

PURPOSE

The purpose of this study was to analyze the composition, costs of acquisition or elaboration at the Pharmacy Department (PD) of these preparations to determine the most cost-effective option and the annual economic impact of the implementation of this new measure at the Anaesthesia Critical Care Unit (ACCU).

MATERIAL AND METHODS

We conducted a literature research and analysed if the preparations could be acquired through a regular provider (A) or had to be elaborated at the PD (B). To determine elaboration costs; we considered the total costs of raw materials, packaging materials, consumables and staff time.

RESULTS

We found that antibiotics commonly used were: **tobramycin**, **colistin** and **anfoterincin B** (or **Nystatin** instead), and furthermore **Vancomycin** could be added in case of methicillin-resistant *Staphylococcus aureus*. We agreed with the ACCU to elaborate them with tobramycin, colistin and nystatin.

Preparation costs/acquisition were:

- OP: € 1.43/g A; € 0.12/g B.
- DDS: € 4.42/10ml A; € 0.70/10ml B.

Regarding the annual consumption, estimating the average of intubated patients per day and the dosage (10ml DDS q8h and 5ml PO q8h, equaling to 4.58g B and 1.6g A), we estimated the costs on:

- € 11.556 if we elaborated it.
- € 36.234 if we acquired it.

We agreed with the ACCU that we would elaborate these preparations at the PD as it may result in estimated annual saving of **€ 24.678**.

CONCLUSION

The elaboration of OP and DDS at the PD significantly saves costs compared to the acquisition of both preparations already commercialized. This implies an optimization of resources, one of the main objectives of health care management.

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