

original article

Shifting from the reusable to the disposable surgical drape systems: an economic approach

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The aim of our research is the comparative economic evaluation of reusable versus disposable surgical drapery systems.

Material and Methods

The research data came from 1961 operation records held in the General Hospital of Argos, in which surgical drape systems were used. All the used material came from the hospital archives of 2004. Our research focused on the precise cost calculation of the reusable and disposable drape sets in general surgery. The methodology used was the *Activity Based Costing* and for the collection of workplace activities information we used the *time-and-motion technique*.

Results

Our research results show that the use of disposable drape system is a cost-effective and quality-dominating choice. The cost of the reusable drape system is 29,681 € /set, with an annual expense of 58.204 €, while the cost of the disposable drape system is 27,262 €/ set, with an annual expense of 53.460 €, resulting to a cost-cutting of 9,18 % per year.

Conclusions

We suggest that priority must be given in adopting the disposable drape systems in surgical interventions, in an obligatory rather than optional basis, since it is a cost effective and superior in terms of hygiene choice.

Keywords: Costs and Cost Analysis, Hospital Economics, Technology Assessment, Biomedical Hospital Financial Management, Medical Technology

INTRODUCTION

The effectiveness of health care systems can only be achieved through a proper management of the available resources. The precise cost calculation of medical practices, medical-technological products and certain medical treatments leads to the achievement of cost effectiveness; either via minimizing of the costs in order to achieve certain goals or via the improvement of the results with a given cost.¹

With the proper application of cost accounting principles in Public Hospitals, we should be able to precisely calculate the real cost of health services.^{2,3,4} This can be achieved by dividing the hospital into cost-centres, regarding small activity units. The cost-centres may be *Main*, producing principal or intermediary products or *Auxiliary*, servicing the *Main* centres.⁵

In our research, the Departments of Sterilization, of Supervision as well as of the Administration Services, are considered as *Auxiliary cost-centres*, servicing various *Main cost-centres*. Such a centre is considered the Operation Room (OR), where the surgical drapery is used, and which, in turn, contributes to the total cost of a surgical operation.

Surgical gowns and drapes are fabricated from either multiple- or single-use materials. These two basic types of products each have advantages and disadvantages. In addition, within each of these two broad categories, there is considerable variation in design and performance characteristics which reflects the necessary trade-offs in economy, comfort, and degree of protection required for particular surgical procedures.

The aim of the present study, for the comparative evaluation of reusable versus disposable surgical drapery systems, was to estimate the unknown real annual cost of the use of two alternative medical-technological products and to ascertain which of those two types fulfils the required quality specifications based on the international standards.⁶⁻¹⁰

MATERIALS AND METHODS**Health Unit Selection and Cost Centre**

The Health Care Unit chosen for our research was the General Hospital of Argos (Greece), a 125-bed full service regional Hospital, with 51 beds and 3 operating rooms available for the surgical departments. As cost-centre, we considered the Supervision Department which is dedicated to the manufacture and the cleaning of the reusable drapery.

Reusable drape system

This drape system consists of three surgical robes, seven small items and three large items, one of which is used for the packaging of the set. In order to assess the number of uses we posed two check points of the drapery system flow, which had particular marking.

Research period

Though our research was conducted in the beginning of 2007, the data refer to 1.961 operations out of a total of 2.411 oper-

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