Development of a Computerized Material Management System in a University Hospital

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Introduction

The aim of this study is to present the implementation of computerized management of materials system (CMS) of the University Hospital at the University of São Paulo (UH-USP). The UH has an expense with consumables which represent 49% of the cost of the hospital, a value above the reports found in the literature [1]. In the hospital, the materials were distributed to users, according to predetermined material quotas, being replaced at fixed dates. This traditional system, with manual control, had some problems, such as: monthly prevision with poorly programmed quotas, loss of inventory control, total lack of knowledge on consumption, waste and lack of material. Based on the facts above mentioned, it was planned to develop a computerized system for materials management with an interface with other existing programs in the hospital.

Methods

This is a methodological applied research, with technological production. The development of the CMS was held in accordance with the following steps: **a) the choice of the model and information tool**: we adopted a model based on the *just in time* system, establishing a minimum inventory, consumption and replacement of materials from a real demand, with a more frequent distribution of material and in small quantities distributed in units of the hospital. In this sense, we have developed an electronic information system to support the management of materials and, therefore assisting the acquisition process, storage, distribution and control of materials. Aiming to choose an informational tool to create a compatible and integrated software with existing systems of the institution, we used the concept of three layers (presentation, business, data storage), NET development tools (Dot Net) and Oracle database [2] **b) restructuring the logistics material process of the hospital**: A Step 1 included the reorganization of the Central Inventory and the creation of Areas of Supply (AS). The 2nd step aimed at organizing and packing materials of sectors that lacked Supply Area **c) restructuring the support areas**: to perform the CMS, all exchanged information is elaborated, using bar code, according to the pre-established standards of the UH, involving the purchase process, input, unitarization, stockpiling, production and consumption determining the entire life cycle of the material into the University Hospital. Thus, it includes all the phases of the material in the hospital since the need to purchase up to the moment to replace them; **d) implantation of Management Materials System**: the methodology for implementing the CMS was: to develop a schedule of meetings for all professionals of sectors for presentation of the system, to review records of all the staff members to access the computer, establishing the date of the beginning of the CMS, the schedule of inventories, weekly meetings to monitor the implementation and, finally, training for all nursing professionals, and also lectures on the CMS and practical lessons from the screens of the system being followed up by the informatics team, **e) evaluation:** the study was carried out 44 days after implantation, and showed that when compared the use and stockpiling of materials of the CMS in relation to the Traditional System, a decrease of 8.13% was observed regarding the consumed amount and 12.46% in the cost of materials. An evaluation of user and all the other components of the syste are in process to be developed.

References

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