

عنوان مقاله:

A comprehensive mathematical model for the scheduling problem of the elective patients considering all resources and the capacity of the postoperative care unit: A case study

محل انتشار:

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خلاصه مقاله:

Surgical theater consists of operating and recovery rooms and includes a major part of the costs and revenues of a hospital. Moreover, the different wards of the surgical theater are in a wide relationship with the other wards of the hospital and influence them. Thus, improving the performance of the surgical theater not only increases its profitability, but also it increases the quality of the provided services in the other wards. Hence, the scheduling of the surgical theater is a crucial and challenging affair. In this study, we present a new and comprehensive model for the daily scheduling of the elective patients by considering all resources as well as the capacity of the postoperative care units. Moreover, we aim to minimize the underutilization and overutilization cost of the operating rooms by considering the other constraints in the surgical theater such as availability of the operating rooms, surgeons, equipment, human resources, and non-renewable resources. Finally, a real-life example is provided to show the applicability of the proposed model and evaluate its performance in comparison with the actual schedule suggested by the operating room manager. The results showed that the proposed model has a better performance in comparison with the actual .schedule used in the hospital

کلمات کلیدی:

Linear mixed integer model; scheduling of elective surgeries; all resources; the postoperative care unit

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