

عنوان مقاله:

Investigation of single and double cross-match processes and their costing using material flow cost accounting technique.

محل انتشار:

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خلاصه مقاله:

Cross-match is a very key stage in the blood supply chain distribution phase. In the single cross-match, the blood product is reserved for each applicant for the required number of blood bags, and if the blood products are taken out of the blood bank and not used, they are discarded and the environmental effects and costs seek out the hidden ones. Attention is also paid to the social phenomena that affect blood donation and collection. For example, in the pandemic caused by COVID-۱۹, blood donation in Iran decreased by an average of ۳۰ to ۴۰ percent. In this study, a double cross-match process is introduced in which instead of a single cross-match being given to a patient applying for a bag of blood products, two bags of cross-matching blood products are introduced to two patients. The main question in this study is that because, in the double cross-match operation, the cross-match process for a patient is repeated twice, whether the combined costs of manpower, energy, raw materials, and waste economically justify the double cross-matching process for replacement with the current conventional cross-match in the hospital blood bank. To investigate this issue, the material flow costing accounting technique has been used. It has been shown that this method can reduce the loss of blood products and increase the likelihood of consuming long-lived blood. Numerical results show that the probability of consuming blood products increases from ۵۰ to ۷۵% and manpower costs from ۳۷ to ۵۰%.

کلمات کلیدی:

Single Cross-match, Double Cross-match, Material Flow Cost Accounting, Environmental effects, Covid-۱۹

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