

عنوان مقاله:

A multi-level blood supply chain network design in natural disasters with robust optimization

محل انتشار:

اولین کنفرانس بین المللی بهینه سازی سیستم ها و مدیریت کسب و کار (سال: 1396)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

One of the most important issues in disaster management that must be considered is to maintain injured and uninjured people's health in times of crisis. In this study, a multi-level supply chain, including donors, mobile centers, blood transfusion centers, processing centers and hospitals are considered in a mathematical model. The proposed model has two objective functions that is minimizing the cost and minimizing the delivery time in blood supply during accidents and natural disasters. Our proposed objective functions represent efficiency and effectiveness of the blood supply chain design, respectively. The concept of blood inventory stored in processing centers, is another developed concept in the model. By solving the model one can find the optimal amount of inventory in order to meet the blood supply in times of crisis. The issue can be implemented under various scenarios such as the earthquake intensity that was assessed using a two-step approach. Managerial conclusions are obtained from numerical experiments

کلمات کلیدی:

Blood supply chain, humanitarian aid Supply chain, relief operations, inventory, robust optimization

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