عنوان مقاله:

A reliable and sustainable design of supply chain in healthcare under uncertainty regarding environmental impacts

محل انتشار:

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خلاصه مقاله:

Nowadays, designing a reliable network for blood supply chains by which most blood demands can be supplied is an important problem in the health care systems. In this paper, a multi-objective model is provided to create a sustainable blood supply chain, which contains multiple donors, collection centers, distribution centers, and hospitals at different echelons. Regarding the potential of a blood shortage occurring, the suggested model considers the supply chain's capacity to meet hospitals' blood demands as dependable and a means of achieving the societal purpose. In addition, limiting the overall cost and environmental effect of designing a supply network and blood transportation are considered economical and environmental objectives. To solve the proposed multi-objective model, an improved ε-constraint approach is first employed to construct a single-objective model. Additionally, an imperialist competitive algorithm is developed to solve the single-objective model. Several test cases are analysed to determine .the technique's effectiveness. CPLEX is then used to compare the results

کلمات کلیدی:

Supply chain, Sustainability, Reliability, blood supply chain, Environment, Imperialist Competitive Algorithm