

The cost-effectiveness of Nebulized hypertonic saline in bronchiolitis

jefferson buendia¹ and Ranniery Acuña-Cordero²

¹University of Antioquia

²Hospital Militar Central

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Abstract

Rationale, aims, and objectives Pharmacological treatment for bronchiolitis is primarily supportive because bronchodilators, steroids, and antibiotics, show little benefit. Clinical studies have suggested that nebulized 3% HS is useful for infants with bronchiolitis. The aim of this study was to evaluate the cost-effectiveness of the HS nebulized in infant bronchiolitis in a middle-income tropical country Methods A decision tree model was used to estimate the cost-effectiveness of the use of nebulized hypertonic saline (3-7%) compared with treatment without hypertonic saline nebulization (control) in bronchiolitis. Cost data were obtained from a retrospective study on bronchiolitis from tertiary centers in Rionegro, Colombia, while utilities were collected from the literature. The analysis was carried out from a societal perspective. Results The control strategy was dominated by HS nebulized group. The expected costs per patient were US\$ 200 (CI 95% US\$ 178- 222) in the HS nebulized group and US\$ 240 (CI 95% US\$ 213- 267) in controls. The expected utilities were 0.923 (CI 95% 0.922- 0.924) in the HS nebulized group and 0.91 (CI 95% 0.918- 0.920) in controls. Sensitivity analyses of parameters in the model showed that the cost-effectiveness of HS was only sensitive to the probability of hospitalization. Conclusion The strategy treatment without hypertonic saline nebulization was dominated by the strategy with HS nebulized in infants with bronchiolitis. Our study provides evidence that should be used by decision-makers to improve clinical practice guidelines and should be replicated to validate their results in other tropical countries.

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