

# The cost-effectiveness of Nebulized hypertonic saline in bronchiolitis

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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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