

**Factors Associated with Repeated Nebulized Bronchodilators  
among Children with Wheezing Lung Sound in A Pediatric Outpatient Setting**

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**Background:** Wheezing mostly represents acute bronchospasm. Nebulizing short-acting bronchodilators help reduce contraction of bronchial smooth muscle. However, repeated nebulized bronchodilators with unclear indication could lead to adverse outcomes.

**Objective:** To study the factors associated with repeated bronchodilators nebulized among children in treatment room, outpatient setting. Department of Pediatrics, Siriraj Hospital.

**Methods:** This was a retrospective study. Patients aged  $\leq 5$  years old, treated with nebulized bronchodilators (either salbutamol or albuterol sulfate/ipratropium bromide) and taken care by pediatric residents, fellows or general pediatrician in 2017 were enrolled. Logistic regression analysis was performed and reported as odd ratios at 95% confident interval.

**Results:** 493 pediatric patients were treated with nebulized bronchodilators and 32% got repeated doses. Early wheezers and patients with acute asthmatic attack demonstrated the highest repeated doses (50% and 43.8% respectively). One-fifth of all needed hospitalization. Either audible wheezing or crepitation lung sound showed significantly increase chance of obtaining repeated nebulizers, 3 and 2.2 times sequentially, as well as types of trainees did.

**Conclusion:** Patients with respiratory problems, treated with nebulized bronchodilators were mostly younger than 2 years old. Of all, one-fourth got repeated nebulizers without clear indication.

Repeated nebulization were associated with lung sound abnormalities and physicians' experience.

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