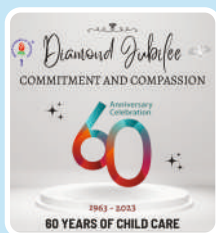


Indian Academy of Pediatrics (IAP)



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Newer **R**esearch and recommendations **I**n **C**hild **H**ealth

Lead Author

Kaustabh Chaudhuri

Co-Author

Rashna Dass Hazarika



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Uendra Kinjawadekar

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GV Basavaraja
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Vineet Saxena
IAP HSG 2022-23

UPDATE - 2022 Italian guidelines on the management of bronchiolitis in infants

Kaustabh Chaudhuri¹, Rashna Dass Hazarika²

Consultant Pediatrician and Intensivist, Apollo Gleneagles Hospital, Kolkata, India¹
Nemcare Superspecialty Hospital, Guwahati, India²

BASED ON ARTICLE

Sara Manti , Annamaria Staiano, Luigi Orfeo, Fabio Midulla , Gian Luigi Marseglia , Chiara Ghizzi , Stefania Zampogna , Virgilio Paolo Carnielli , Silvia Favilli , Martino Ruggieri, Domenico Perri, Giuseppe Di Mauro, Guido Castelli Gattinara, Antonio D'Avino, Paolo Becherucci, Arcangelo Prete, Giuseppe Zampino, Marcello Lanari, Paolo Biban, Paolo Manzoni, Susanna Esposito, Giovanni Corsello and Eugenio Baraldi. Ital J Pediatr. 2023 Feb 10;49(1):19. doi: 10.1186/s13052-022-01392-6.

ABSTRACT

Background: Bronchiolitis is an acute respiratory illness that is the leading cause of hospitalization in young children. This document aims to update the consensus document published in 2014 to provide guidance on the current best practices for managing bronchiolitis in infants. The diagnosis of bronchiolitis is based on the clinical history and physical examination. The mainstays of management are largely supportive, consisting of fluid management and respiratory support. Evidence suggests no benefit with the use of salbutamol, glucocorticosteroids and antibiotics with potential risk of harm. De-implementation of non-evidence-based interventions is a major goal, and educational interventions for clinicians should be carried out to promote high-value care of infants with bronchiolitis. In parallel, parents' education will help reduce patient pressure and contribute to inappropriate prescriptions. This revised document, based on international and national scientific evidence, reinforces the current recommendations and integrates the recent advances for optimal care and prevention of acute bronchiolitis.

Methods: In April 2021, a national working group convened a new committee to review the 2014 bronchiolitis guidelines. The evidence search and review included electronic databases, including PubMed, EMBASE, and Global Health, and manuscripts published between October 2014 and April 2022. The panel followed a systematic process that included a standardised methodology for rating the certainty of the evidence and strength of recommendation using the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) methodology. The following tools for evaluating the validity of the studies analysed were adopted: Grilli criteria for Consensus and Position Papers, the AGREE II checklist for guidelines. Clinical questions identifying Population (P), Intervention (I), Comparison (C) and Outcome (O) (P.I.C.O.) were addressed by methodologists.

Results: Based on the evidence obtained from questions below in regards to the management of bronchiolitis was analysed and the recommendations were formulated.

1. How is bronchiolitis diagnosed?
2. What is the role of primary care paediatricians in managing a child with bronchiolitis?
3. Are laboratory (blood and/or urine) tests and radiological exams supported in managing bronchiolitis?
4. When making decisions about the hospitalization of an infant with bronchiolitis?
5. When making decisions to transfer to intensive care unit an infant with bronchiolitis?
6. Which are evidence-based treatment recommendations?
7. What criteria should be used for safe discharge?
8. How can we prevent bronchiolitis?

CONCLUSIONS

1. The diagnosis of bronchiolitis is based on the clinical history and physical examination. Laboratory and instrumental investigations are not routinely recommended.
2. Decision to admit to the hospital should be based on clinical conditions suggesting a moderate to severe bronchiolitis such as SpO₂ levels persistently lower than 92%, inability to maintain adequate hydration, and uncertainty over the diagnosis of bronchiolitis.
3. General supportive management and pharmacological treatment to control pulmonary and systemic clinical symptoms. Gentle nasal aspiration, O₂ therapy, adequate feeding and hydration remain the cornerstones for the management of bronchiolitis. Deep nasal aspiration, chest physiotherapy, inhaled bronchodilators, nebulized adrenaline, nebulized and systemic corticosteroids, antibiotics, and other therapies are not routinely recommended in treating bronchiolitis.
4. When supplementary O₂ is indicated, humidified high flow nasal (HHFNC) should not be used as a primary treatment modality but considered if standard subnasal supplemental O₂ fails in hypoxic infants. If respiratory failure requiring ventilatory support (like CPAP), apnea with desaturation, and severe impairment of general conditions occur, the baby affected by acute bronchiolitis must be referred to the ICU.
5. Since there is no vaccine against Respiratory syncytial virus, environmental prophylaxis is crucial in preventing and limiting the spread of bronchiolitis. Pharmacological immunoprophylaxis (Palivizumab) has proven beneficial to populations at increased risk for RSV infection– related complications.
6. Globally, evidence suggests that less treatment is better and promotes supportive rather than interventional therapy. Well-prepared implementation strategies to standardize care and improve the quality of care are needed, such as educational interventions and audit cycles for clinicians and nursing staff, to promote adherence to guidelines and discourage wrong attitudes, including the use of diagnostic procedures and non-evidence based therapeutic approaches. It may be reasonable to promote the adoption of a “warning signal” when a prescribed therapy might not be appropriate for a patient diagnosed with bronchiolitis.
7. In parallel, educating parents with a “wait and see” approach could allow symptoms to improve spontaneously and reduce patient pressure, contributing to inappropriate prescriptions. In this regard, the publication and diffusion of educational materials could implement choosing wisely recommendations and change non-evidence-based clinical practice.

COMMENTARY

Bronchiolitis, a leading cause of hospitalization in below 2 years is diagnosed by clinical history and physical examination. Bronchiolitis is an acute respiratory distress where the mainstays of management are largely supportive, consisting of fluid management and respiratory support. Evidence suggests no benefit with the use of salbutamol, glucocorticoids and antibiotics rather there is potential risk of harm. De-implementation of non-evidence-based interventions is a major goal, and educational interventions for clinicians should be carried out to promote high-value care of infants with bronchiolitis. Parents' education is the mainstay of management which will help in reduction of pressure from parents which contribute to inappropriate prescriptions.

To note especially of high risk Infants with pre-existing risk factors (i.e., prematurity, Broncho pulmonary dysplasia, congenital heart diseases, immunodeficiency, neuromuscular diseases, cystic fibrosis, Down syndrome) present a significant risk of severe bronchiolitis and should be carefully assessed.