



**Ministry of Health, Kingdom of Bahrain: Salmaniya Medical Complex: Paediatrics  
Department**

**A Retrospective Clinical Audit on the Management of Asthma Exacerbations in  
Children at Salmaniya Medical Complex**

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## Abstract

### Introduction:

Asthma is the commonest chronic disease among children. It remarkably holds a potential danger to patients' lives if its exacerbation is inadequately managed. Several guidelines have been developed, and, yet clinical practice continues to fall behind. In Bahrain, there have been no published papers of hospital-based asthma care until now. The aim of this audit is to compare the current practice in the management of childhood asthma exacerbations at Salmaniya-Medical-Complex (SMC) against the Global-Initiative-for-Asthma (GINA) guidelines and to provide baseline data to be used in future studies.

### Methods:

A list of all children admitted with asthma exacerbations to SMC from 1<sup>st</sup> January 2020 to 9<sup>th</sup> January 2021 was obtained using the medical records. Relevant data were collected retrospectively, and descriptive statistics were calculated using Microsoft-Excel.

### Results:

In total, 25 patients were included, of whom 96% received their initial Short-acting- $\beta$ -agonist (SABA) and systemic-corticosteroid doses as per guidelines. The audit showed 80% adherence to hypoxaemia management, while only 20% of patients have been assessed for attack severity appropriately. Worryingly, only 33.3% and 11.8% of children had documented indication for Magnesium-Sulfate and Ipratropium-Bromide prescription respectively. The pattern of this audit's results is quite similar to other audits carried out in the region.

### Conclusion:

Various aspects of the GINA guidelines appear to have been integrated into clinical practice by physicians at SMC, whereas other recommendations do not appear to have been adopted. This information suggests areas for intervention such as improvement of physicians' knowledge regarding the proper implementation of the guidelines and proper completion of medical records as inadequate documentation remains an obstacle for data analysis. This audit also recommends further studies or audits to assess physicians' adherence to the guidelines and to look for possible causes behind decreased compliance with the guidelines' recommendations.

**Key words:** asthma exacerbation, asthma guidelines, children, audit, Bahrain.

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Standard	Target	Achieved
1. Assessment of exacerbation severity (yes/no) and type (mild/moderate/severe).	100%	20%
2. Initial dose of SABA given as indicated (yes/no).	100%	96%
3. In cases with Ipratropium Bromide usage, was it documented as indicated i.e., met any of the criteria to liaise its prescription (yes/no) and did they meet the standard dose (yes/no).	100%	11.8%
4. In cases with Magnesium Sulfate usage, was it documented as indicated i.e., met any of the criteria to liaise its prescription (yes/no) and did they meet the standard dose (yes/no).	100%	33.3%
5. Systemic corticosteroids use (yes/no) was it within the optimal time and dose (yes/no).	100%	96%
6. If hypoxemic, management with oxygen saturation 94-98% (yes/no).	100%	80%

**Table 1: Application of GINA at SMC**