

# Asthma admission rates and patterns of salbutamol and inhaled corticosteroid prescribing

Increased use of short-acting beta agonists (SABA) and underuse of inhaled corticosteroids (ICS) among asthmatics have been shown to be associated with increased exacerbations and mortality. SABA are potent bronchodilators and are associated with quick relief of symptoms when used during exacerbations; however, there is no suppression of the underlying inflammation. The overuse of SABA is related to the development of airway smooth-muscle hyper-responsiveness. The newly published GINA document recommends the use of as-needed, low-dose ICS/formoterol combination as step 1 or the use of an ICS every time a SABA is used. This new guideline will help reduce the unopposed use of SABA, which only controls the symptoms without any control on the underlying inflammation causing the exacerbations. The SYGMA 1 trial showed that the balanced use of beta-agonists and ICS as-needed therapy provides superior asthma symptom control and reduction in exacerbations when compared with SABA use in mild asthmatics.<sup>[1]</sup> One should remember, however, that the authors conceded that regular ICS use was superior to as-needed ICS.

Gonem *et al.*<sup>[2]</sup> aimed to assess the relative impact of the pattern of prescribing and quality of primary care asthma provision on asthma admission rates across the English Clinical Commissioning Group (CCG) regions from 2013 - 2017. Asthma prevalence data, annual asthma admission numbers and prescribing data were collected from the National Health Service digital database from each CCG. Prescribing data were extracted for ICS and combination ICS/LABA prescriptions, grouped by the total quantity of ICS per inhaler in

units of beclometasone dipropionate equivalent. The study showed that the ratio of salbutamol to ICS prescriptions is positively associated with asthma admission rates. An increase of 0.1 in the salbutamol/ICS ratio was associated with a rise in admission rate of 7 per 100 000. The study also noted a surge in the salbutamol/ICS ratio in England over the past 5 years (0.656 in 2013 - 0.698 in 2017), which points to an increase in reliance on reliever therapy and deterioration in population-level asthma control. There was also an increase in the admission rate of 2 per 100 000 per each unit increase in the index of multiple deprivations. The study did not find any relationship between the asthma Quality Outcome Framework (QOF) score and admission rates.<sup>[2]</sup>

This study clearly shows how the increased use of SABA over ICS to control asthma symptoms is associated with an increase in asthma-related admissions. Continuous education on appropriate class of inhaler use is necessary to remedy this global problem.

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2. Gonem S, Cumella A, Richardson M. Asthma admission rates and patterns of salbutamol and inhaled corticosteroid prescribing in England from 2013 to 2017. *Thorax* 2019. Epub ahead of print. <https://doi.org/10.1136/thoraxjnl-2018-212723>