Letter to the Editor

Enhancing Asthma Management: Key Insights from the 10th Asthma Quality Assessment Program

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Asthma is a chronic respiratory disease that consumes extensive medical resources, with prevalence rates in Korea ranging from 3.4% (19 to 39 years) to 4.02% (60 years or older) in age-matched populations[1]. Asthma is a major ambulatory care-sensitive condition; timely and effective outpatient treatment can prevent exacerbation of the disease and subsequent hospitalization[2,3]. Consequently, the Asthma Quality Assessment Program (AQAP) managed by the Health Insurance Review and Assessment Service is implemented annually to ensure optimal treatment management for asthma patients, aiming to prevent disease worsening and hospital admissions by guaranteeing proper care[4]. The 10th AQAP, which evaluated the management quality of asthma in South Korea in 2023, revealed improvements in various areas and identified ongoing shortcomings that require targeted interventions.

For the 10th AQAP, the evaluation period was established from January to December each year, with modifications to some items. This program is evaluated in two segments: the evaluation indicators and the monitoring indicators. The evaluation indicators include the pulmonary function test (PFT) performance rate, regular follow-up visits at clinics, and the proportion of patients prescribed inhaled corticosteroids (ICS). The PFT performance rate is defined as the proportion of asthma patients who underwent PFTs at least once during the evaluation period. The regular follow-up visits at clinics are described as the proportion of asthma patients who visited the same medical institutions three or more times, and the proportion of patients prescribed ICS reflects the percentage of asthma patients who were prescribed ICS. The monitoring indicators comprise the following: the prescription days of ICSs, the proportion of patients with asthma-related hospitalizations, the proportion of patients with asthma-related emergency room (ER) visits, the proportion of patients prescribed short-acting beta-agonist (SABA) without ICS, and the proportion of patients prescribed systemic corticosteroid (OCS) without ICS. The prescription days of ICSs are calculated as the ratio of the number of days that all evaluation subjects received outpatient prescriptions for ICS. The proportions of patients with asthma-related hospitalizations or asthma-related ER visits are determined as the proportion of asthma patients who experienced at least one hospital-

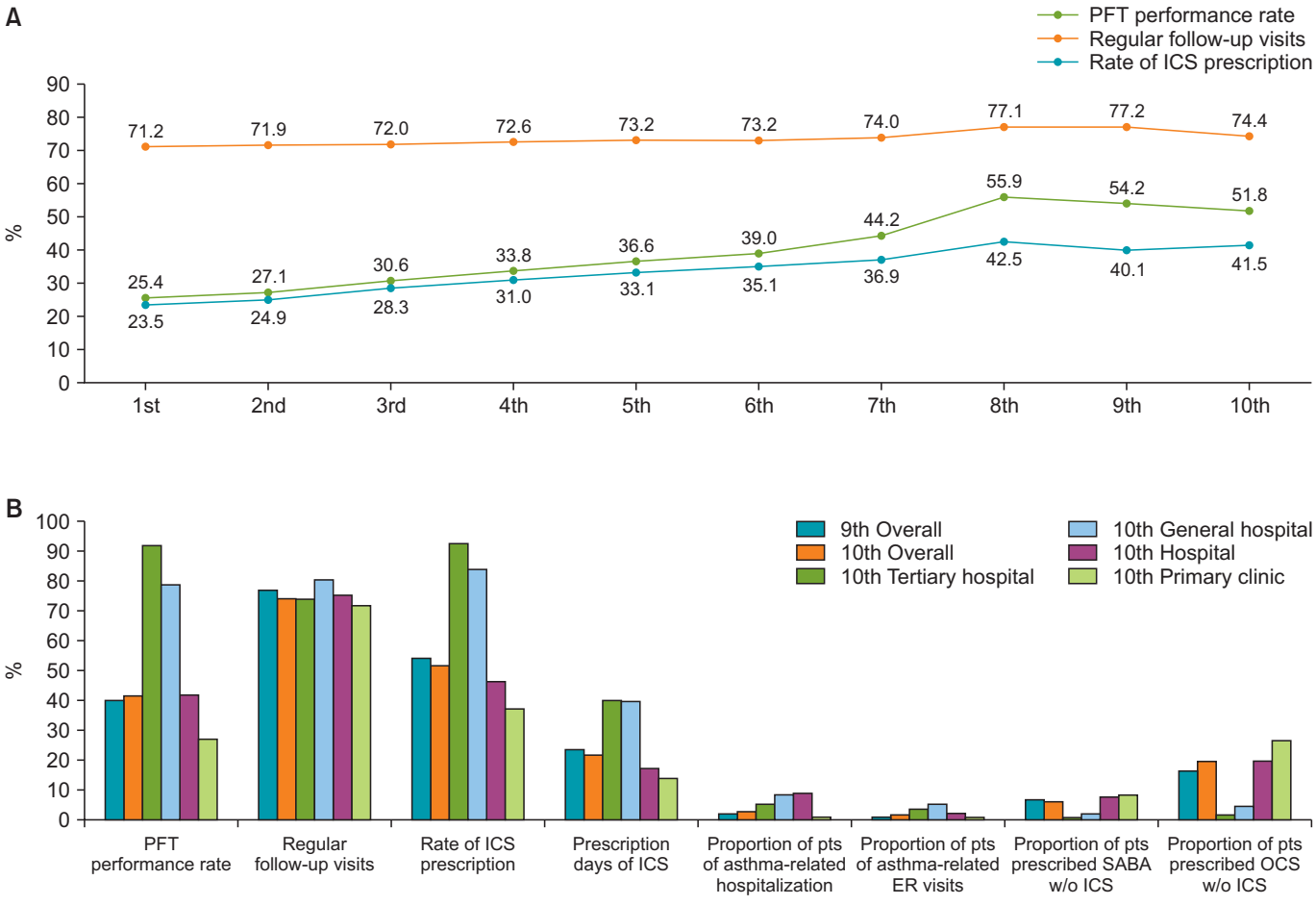
ization or ER visit due to asthma during the evaluation period. Additionally, the proportion of patients prescribed SABA without ICS or OCS without ICS is defined as the proportion of asthma patients prescribed SABA or OCS without ICS within the same timeframe.

A notable finding from this AQAP is the continued increase in the PFT performance rate, which reached 41.5%, marking a 1.4% improvement from the earlier evaluation (Figure 1A). Regular PFT monitoring is crucial for the accurate diagnosis and optimal management of asthma, as it provides objective measures of lung function. However, adherence in primary care clinics remains suboptimal at 27.0%. Efforts to promote the regular use of spirometry in these settings must be intensified (Figure 1B). Implementing reimbursement policies for PFTs and equipping primary care clinics with portable spirometry devices could improve testing rates and enhance early diagnosis and treatment adjustments.

Another key observation is the decline in continuity of care, reflected by a 2.8% decrease in the proportion of patients who visited the same provider at least three times annually (Figure 1A). This decline coincides with an increase in emergency department visits (from 1.1% to 1.6%) (Figure 1B). Fragmented care can lead to inadequate symptom control, increased exacerbation risk, and elevated healthcare costs. Strategies to tackle this issue include the implementation of automated follow-up reminders and enhancement of patient education on the importance of regular consultations. Offering financial incentives to providers that achieve high patient retention rates in asthma management programs could also strengthen continuity in asthma care.

Of particular concern is the decline in ICS prescriptions, which fell from 54.2% in 2021 (9th AQAP) to 51.8% in 2023 (10th AQAP) as shown in Figure 1A. ICS therapy represents the cornerstone of asthma manage-

Figure 1. (A) Annually trend of evaluation indicators in Asthma Quality Assessment Program. (B) Comparison of results by 9th and 10th Asthma Quality Assessment Program by medical institutions. PFT: pulmonary function test; ICS: inhaled corticosteroids; ER: emergency room; SABA: short-acting beta-agonist; w/o: without; OCS: systemic corticosteroid.



ment, offering well-established benefits such as reducing exacerbations and hospitalizations[5,6]. The decline in prescription rates can often be attributed to patient non-adherence, misconceptions regarding ICS side effects, or physician reluctance to prescribe ICS early in the disease course[7]. Thus, it is critical to enhance clinician awareness of the most recent guideline recommendations, emphasizing the timely prescription of ICS in asthma management. Education for patients can address both concerns about ICS safety and efficacy, as well as the necessity of ICS in treating asthma. Additionally, the development of policies that ensure the affordability and accessibility of ICS medications could alleviate financial barriers to adherence.

The report also highlights a concerning trend: the increasing proportion of patients receiving OCS without concurrent ICS therapy, which rose by 3.2% to 19.5% as depicted in Figure 1B. OCSs are typically reserved for acute exacerbations rather than long-term management, as prolonged use can lead to significant adverse effects, including osteoporosis, hypertension, and metabolic disturbances[8]. The increasing dependence on OCS without ICS is attributed to growth in hospitals and primary care clinics, indicative of suboptimal asthma control and potential overuse of rescue therapies. To mitigate this issue, clinician education programs should focus on adherence to evidence-based treatment protocols, and a system should be implemented to reinforce appropriate treatment, offering incentives for each evaluation grade[9].

Despite these challenges, the report highlights positive trends, such as a decline in the use of ICS monotherapy alongside SABA, suggesting improved adherence to combination therapy recommendations. The increased adoption of combination inhalers containing both ICS and long-acting muscarinic antagonist is aligned with current asthma management guidelines, which advocate for combination therapy in patients with moderate to severe asthma. However, ensuring these treatment advances are uniformly applied across all healthcare settings remains a challenge. Among tertiary hospitals, high ICS prescription rates (92.6%) underscore the role of specialized centers in delivering guideline-based care (Figure 1B). Further policy measures are needed to bridge the gap in asthma treatment management, ensuring this trend is consistently observed even in primary care settings.

Future initiatives should focus on reducing disparities in asthma care, enhancing ICS adherence, and improving patient retention in long-term management programs. With the ongoing burden of asthma, evaluations like these are crucial for refining clinical strategies and optimizing health outcomes. In addition, integrating patient-reported outcomes in future assessments could yield more profound insights into treatment satisfaction and real-world efficacy. As asthma management progresses, continuous monitoring and strategy adjustments will be critical to ensure optimal care delivery and minimize the societal impact of the disease.

Authors' Contributions

Conceptualization: Kim Y, Rhee CK, Hwang YI. Methodology: Kim Y, Hwang YI. Investigation: all authors. Writing-original draft preparation: Kim Y, Hwang YI. Writing-review and editing: all authors. Approval of final manuscript: all authors.

Conflicts of Interest

Tai Joon An and Joon Young Choi are early career editorial board members, Chin Kook Rhee is a deputy editor, Kyung Hoon Min is an editor, Yong Il Hwang is an associate editor of the journal, but they were not involved in the peer reviewer selection, evaluation, or decision process of this article. No other potential conflicts of interest relevant to this article were reported.

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