AN EVALUATION OF MANAGEMENT QUALITY OF OUTPATIENTS WITH BRONCHIAL ASTHMA AT PHAM NGOC THACH HOSPITAL, HO CHI MINH CITY IN 2025

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ABSTRACT

Objectives: To describe the status of bronchial asthma management activities at the Outpatient Department, Pham Ngoc Thach Hospital in 2025.

Methods: A retrospective study was conducted on 104 medical records of outpatients with bronchial asthma (BA) treated from January to June 2025, combined with an evaluation of the unit's management capacity.

Results: Males accounted for 59.6%, and the age group ≥ 60 represented 53.8%. 100% of patients had establised management records and underwent lung function testing. The rate of Fractional exhaled Nitric Oxide (FeNO) measurement reached 72.1%. The rate of scheduled follow-up compliance was 47.4%. Well-controlled asthma was achieved in 54.8% of patients. The unit attained Level 5 for professional capacity and equipment, and Level 4 for the rate of periodic asthma control assessment.

Conclusion: Asthma management activities at the hospital achieved high professional results and compliance with technical procedures. However, the patient follow-up compliance rate needs to be improved through appointment reminder solutions.

Keywords: Bronchial asthma, outpatient management, Pham Ngoc Thach Hospital.

I. INTRODUCTION

Bronchial asthma (BA) is a chronic inflammatory disease of the bronchial mucosa, imposing a significant global disease burden. In 2019, the disease affected 262 million people and caused 455,000 deaths [1]. In Vietnam, bronchial asthma is a common disease with an increasing trend, requiring long-term management strategies [2]. Effective BA management includes record keeping, diagnosis, treatment, and counseling, playing an essential role in reducing hospitalizations and mortality [3]. Pham Ngoc Thach Hospital serves as a tertiary-level specialized facility for lung diseases in Southern Vietnam. In 2024, the hospital managed 21,100 BA visits, but 22.4% remained "unspecified," highlighting the need to evaluate management capacity and standardize care models at this lead institution. [4]. This study aims to describe the status of BA management activities at the hospital's Outpatient Department in 2025.

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II. SUBJECTS AND METHODS

2.1. Subjects, Location, and Study Period

Subjects: 104 medical records of outpatients (aged 18-74) diagnosed with BA; reports on the department's human resources and equipment.

Inclusion Criteria: Patients confirmed with BA according to GINA/MoH standards and established management records between Jan-Jun 2025.

Exclusion Criteria: Incomplete records or patients with severe comorbidities (e.g., advanced heart failure, lung cancer) that interfere with asthma control assessment.

Research location: Outpatient Department, Pham Ngoc Thach Hospital, Ho Chi Minh City.

Research period: From January 2025 to June 2025.

2.2. Research Methodology

Study design: Retrospective study.

Sample size and sampling: Total sampling was employed to include all eligible medical records during the study period to ensure maximum representation of the hospital's outpatient population.

Study indicators:

- Epidemiological characteristics: gender, age groups (< 45; 45-59; ≥ 60).

- Rates of record establishment, lung function testing, and FeNO measurement.

- Follow-up rate.

- Asthma control level according to GINA 2022: based on 4 clinical criteria in the last 4 weeks to classify into: Well-controlled (0 criteria), Partially controlled (1-2 criteria), Uncontrolled (3-4 criteria) [3].

- Classification of management quality: 5 levels from Level 1 (Basic) to Level 5 (Specialized/

Comprehensive) according to Decision 4032/QD-BYT [5].

Data Collection: Data was extracted from paper medical records using standardized collection sheets validated by the Institutional Review Board.

Statistical analysis: Data was entered and processed using SPSS 20.0 version software, descriptive statistics method such as frequencies, counts, percentages

2.3. Research Ethics

The study was approved by the Institutional Review Board of the Hanoi University of Public Health under approval No. 243/2025/YTCC-HD3 dated May 26, 2025.

II. RESULTS

Table 1. General characteristics of the study subjects (n=104)

Characteristics	Frequency (n)	Percentage (%)
Gender		
Male	62	59.6
Female	42	40.4
Age group		
< 45 years	21	20.2
45 - 59 years	27	26.0
≥ 60 years	56	53.8
Total	104	100

Male subjects predominated with a rate of 59.6%. Regarding age distribution, the elderly group (≥ 60 years) accounted for the majority at 53.8%, while the youngest group (< 45 years) accounted for the lowest rate at 20.2%.

Table 2. Status of management record establishment and diagnosis (n=104)

Activity Content	Frequency (n)	Percentage (%)
Establishment of outpatient records	104	100
Time of BA diagnosis confirmation		
- At the first visit	57	54.8
- From the 2nd visit onwards	47	45.2
Total	104	100

100% of the patients in the study had outpatient management records established. 54.8% were confirmed with a BA diagnosis at the first visit; the remaining 45.2% required multiple visits and specialized tests to provide sufficient basis for a diagnosis.

Table 3. Status of pulmonary function testing (n=104)

Functional Testing Technique	Frequency (n)	Percentage (%)
Spirometry	104	100
Measurement of Exhaled Nitric Oxide (FeNO)	75	72.1

All patients underwent lung function testing; the implementation rate of FeNO measurement reached 72.1%.

Table 4. Status of follow-up visits and asthma control levels

Monitoring Content	Frequency (n)	Percentage (%)
Scheduled follow-up compliance (n = 78)	37	47.4
Asthma Control Level (n = 104)		
- Well-controlled	57	54.8
- Partially controlled	22	21.2
- Uncontrolled	25	24.0
Total	104	100

The study included a total of 104 patients, which consisted of 78 follow-up patients and 26 first-time visitors, the rate of scheduled follow-up compliance was 47.4%. The rate of well and partially controlled asthma reached 76.0%.

Table 5. Quality assessment of asthma management according to MoH criteria

Assessment Criteria	Status recorded at Pham Ngoc Thach Hospital	Level achieved
Professional Personnel	Team of Specialist Level II and I respiratory doctors; Nurses well-trained in spirometry.	Level 5
Diagnostic Equipment	Fully equipped with modern spirometry systems, FeNO meters, and body plethysmography.	Level 5
Medication Supply	Full supply of essential control medications (ICS, ICS-LABA) and relievers according to protocols.	Level 5
Professional Protocol	100% of newly diagnosed patients undergo spirometry to determine disease status.	Level 5
Control Assessment	75.6% of follow-up patients had periodic assessments of control levels recorded in their records.	Level 4

Asthma management capacity reached Level 5 across most criteria: personnel capacity, specialized diagnostic equipment systems, medication supply capability, and compliance with technical procedures. The assessment of disease control levels during periodic follow-up visits currently stands at Level 4 (75.6%).

IV. DISCUSSION

The study shows that the proportion of males with BA is 59.6%, higher than females; this result is similar to the study by Vu Thi Dao in Tra Vinh (56.2%) [6]. A higher referral rate for male patients who may have more complex histories involving occupational exposures or smoking-related complications. The high proportion of elderly subjects (53.8%) is consistent with the general trend of disease burden at specialized lung hospitals [4]. The high prevalence among the elderly underscores a critical management challenge: this age group often faces cognitive and physical barriers to proper inhaler technique and medication adherence, necessitating more intensive outpatient counseling.

Regarding management status, 100% of patients had records established and underwent lung function tests, helping the hospital reach Level 5 according to the Ministry of Health criteria [5]. This rate is higher than the results at the District 3 Health Center (62.1%) [7]. The application of the FeNO technique (72.1%) confirms specialized diagnostic capacity at the tertiary level, supporting physicians in accurate asthma phenotyping for personalized treatment [3]. According to the Ministry of Health Decision 4032/QD-BYT, these metrics place the hospital's Outpatient Department at Level 5, the highest tier for professional capacity.

However, the scheduled follow-up compliance rate reached only 47.4%, lower than the results of Tran Kim Nhut Thanh (52.4%) [7]. The cause may be that Pham Ngoc Thach Hospital receives patients from many distant provinces, making it difficult to maintain regular monitoring [4]. Nevertheless, the rate of well-controlled asthma reached 54.8%, and if partial control is included, it is 76%, higher than the study by Duong Duc Hoa (27.6%) [8], demonstrating the effectiveness of prescribing ICS according to protocols and providing methodical guidance on inhaler techniques at the unit [2]. That means patients are often educated by specialists (Level II physicians) on correct inhaler techniques and prescribed optimal maintenance therapy (ICS or ICS-LABA).

While the unit reached Level 5 in personnel and equipment, the Periodic assessment of asthma control was rated at Level 4 (75.6%). This gap is primarily attributed to a heavy outpatient workload and a continued reliance on paper-based medical records. The lack of an integrated digital system

to track longitudinal control scores (such as the ACT or ACQ) across visits hinders the ability of physicians to perform rapid, data-driven treatment adjustments. Furthermore, the absence of an automated appointment reminder system (via SMS or Zalo) contributes significantly to the low follow-up rates observed.

Study Limitations: This study has several limitations. The small sample size (n=104) and single-center scope may restrict the generalizability of the findings to broader healthcare levels. Additionally, the retrospective design relies on the accuracy of paper-based records, which is subject to potential documentation or reporting bias.

V. CONCLUSION

The Outpatient Department, Pham Ngoc Thach Hospital, has performed well in asthma management according to Level 5 standards for personnel and equipment. The management status shows high compliance with diagnostic and treatment procedures. To improve management quality, the hospital needs to increase the follow-up rate through the application of information technology for automated appointment reminders.

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