

## STUDY REPORT SUMMARY

### ASTRAZENECA PHARMACEUTICALS

**FINISHED PRODUCT:** N/A

**ACTIVE INGREDIENT:** N/A

<b>Study No:</b> NIS-RTH-DUM-2008/1
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Asthma control among patients who were receiving inhaled corticosteroids in general practice in Thailand
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**Developmental Phase:** NIS

**Study Completion Date:** 24 Nov 2009

**Date of Report:** 5 Oct 2010

#### OBJECTIVES:

To determine the percentage of patients who has reached the GINA guideline of asthma treatment after receiving any inhaled corticosteroid for 3 months or longer in actual clinical practice.

#### METHODS:

This study is a hospital-based cross-sectional, epidemiological, multi-center study. A total of 1,206 from 38 hospitals across Thailand were studied during May to November 2009. These hospitals were selected if they had no Budesonide/formoterol or Salmeterol/fluticasone and had the largest average number of asthma patients per day. Patients were selected if they were 12 years old or older, had persistent asthma and receiving any inhaled corticosteroid, but no Budesonide/formoterol or Salmeterol/fluticasone, for 3 months or longer. Asthma control was based on face-to-face interview with the patient, using the Asthma Control Test (ACT), by the researchers who were independent of the responsible physicians. Peak expiratory flow (PEF) measurements were based on routine testing of each hospital. Being "Controlled" was defined as patients who had the ACT score of 20 or greater.

## RESULTS:

From a total of 1,206 patients, 78.4%, were females. On average, patients were  $49.4 \pm 13.8$  years old. More than three quarters, 78.4%, were females. Almost all of them, 89.3%, were non-smokers. Age at onset of asthma symptom ranged from a few days after birth to 83 years old, with a median of 35 years old. Duration living with asthma symptoms ranged from 0.2 to 78.1 years, with a median of 11 years. About one third had been using ICS for less than 12 months duration. On average, they were under ICS treatment for 20.4 months.

At the date started ICS, type of the ICS being prescribed was predominantly budesonide, 82.6%. Other medications prescribed in combination with ICS were mainly beta 2-agonist inhaler, 86.8%, followed by theophylline, 51.8%, and beta2-agonist tab, 47.8%. About 3.7% were prescribed ICS alone while there were more than 80% whose prescriptions were combinations of 2-4 type of medications. The most common dose of ICS being prescribed was 800 micrograms per day (52.8%) and hence it is the average dose.

Among a total of 1,206 patients, 67 (5.6%) of them had at least one hospital admissions – 63 (5.2%) to IPD ward and 6 (0.5%) to ICU. These contributed a total of 91 occasions of the admissions. Thus the admission rate was 0.30 per patient per year (95%CI: 0.24 – 0.37).

There were 178 (19.3%) patients who had at least one emergency room (ER) visits with a total of 297 occasions (ER visit rate = 0.98 per patient per year; 95%CI: 0.88 – 1.10).

Overall, patients had made a total of 387 hospitalizations of any types. Thus the rate of all hospitalizations due to asthma was 1.28 per patient per year (95%CI: 1.16 – 1.42).

The ACT score ranged from 5 to 25 with a median of 20. The mean ACT score was 19.2 (standard deviation = 4.4). Among a total of 1,206 patients, 645 had the ACT score of 20 or above. The percentage asthma of control according to ACT score was 53.5% (95% CI: 50.7% to 56.3%). Patients who had a score of 25 that represents a complete controlled was 9.5%.

There were 919 patients whose predicted PEF can be calculated. Among these, 504 (54.8%) of them had their predicted PEF greater than 80%.

The rate of control using ACT score of 20 or greater plus PEF of 80% or greater was 36.7% (95%CI: 33.5 – 39.8).

Regarding percentages of asthma control across various groups of each factor were not much difference across various groups of age, age at onset of asthma symptoms, duration living with asthma symptoms, duration under ICS treatment, and BMI, and dose of ICS prescribed at the date started ICS (p-value > 0.05). Females were 35% more likely to control as compared to males (OR = 1.35, p-value = 0.024) and smokers were 36% less likely to control as compared to non-smoker (OR = 0.64, p-value = 0.016). Patients who were prescribed budesonide were 78% more likely to achieve asthma control than those who were prescribed beclomethasone (OR = 1.78; 95%CI: 1.13 – 2.81; p-value = 0.013).

Overall, percentage of hospitalizations were statistically higher in patients whose asthma were uncontrolled than that of whose asthma were controlled. Patient with at least one hospitalization, i.e., either IPD or ER was 33.33% in uncontrolled group whereas it was 8.68% in controlled group with the difference of 24.65% (95%CI: 20.19% to 29.12%, p-value < 0.001). For the ER visits, the uncontrolled group was 19.06% higher than that of the controlled group (p-value < 0.001). Even patients with asthma control, the ER admissions were still as high as 5.89%.