

# Unsatisfactory Asthma Control: Astonishing Evidence from General Practitioners and Respiratory Medicine Specialists

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## ■ Abstract

*Background:* The aim of asthma therapy is to achieve and maintain disease control. Clinicians' behavior is crucial in terms of prescribing the best possible treatment, carrying out appropriate follow-up, and ensuring adherence to treatment. Although clinical trials have demonstrated that asthma control is an achievable goal, real-life data show that this objective is still far from being reached.

*Objective:* To investigate physician-related factors that can influence successful asthma management.

*Methods:* In 2008, 811 general practitioners (GPs) and 230 respiratory medicine specialists attending a continuous medical education program completed a questionnaire prior to beginning the course on aspects related to asthma pathogenesis and control, applicability of research and guidelines in daily practice, and doctor-patient relations.

*Results:* The level of knowledge among GPs and specialists regarding the use of control tools was not optimal, with the Asthma Control Test used by 20.15% of GPs and 42.92% of specialists. The respondents were also largely unable to correctly identify level of asthma control, with approximately just 20% providing correct answers. Although chronic inflammation was considered the main feature of asthma by more than 90% of the 2 groups, they inexplicably believed that up to 40% of patients might not require long-term treatment. Both GPs and specialists preferred a continuous fixed-dose regimen (57.69% and 54.21%, respectively) and did not tend to favor self-management plans, believing that these were only feasible in a very small percentage of patients.

*Conclusion:* Our findings provide one possible explanation of why asthma control levels are currently unsatisfactory in real life.

**Key words:** Asthma. Control. Physicians. Knowledge.

## ■ Resumen

*Antecedentes:* El objetivo del tratamiento del asma es lograr y mantener el control de la enfermedad. El modo de actuar de los médicos es crucial en cuanto a prescribir el mejor tratamiento posible, llevar a cabo un seguimiento adecuado y garantizar el cumplimiento terapéutico. Si bien los ensayos clínicos han demostrado que el control del asma constituye un objetivo factible, los datos reales muestran que este objetivo todavía está lejos de ser logrado.

*Objetivo:* Investigar los factores relacionados con el médico que pueden influir en el control satisfactorio del asma.

*Métodos:* En 2008, 811 médicos de cabecera y 230 neumólogos, asistentes a un programa de formación médica continua, rellenaron un cuestionario antes del inicio del curso sobre aspectos relacionados con la patogenia y el control del asma, el campo de aplicación de la investigación y las directrices en la práctica clínica diaria, así como la relación entre médico y paciente.

*Resultados:* El nivel de conocimiento entre los médicos de cabecera y los especialistas en cuanto al uso de herramientas de control no fue óptimo, siendo el porcentaje de uso de la prueba de control del asma del 20,15% entre los médicos de cabecera y del 42,92% entre los especialistas. Las personas que rellenaron el cuestionario tampoco fueron capaces en su mayor parte de identificar correctamente el nivel de control del asma, y sólo aproximadamente el 20% de ellas facilitaron respuestas correctas. Aunque más del 90% de los componentes de ambos grupos consideraron que la inflamación crónica es una característica principal del asma, inexplicablemente opinaban que hasta un 40% de los pacientes podrían no requerir tratamiento a largo plazo. Los médicos de cabecera y los especialistas preferían una pauta continua a dosis fijas (57,69% y 54,21%, respectivamente) y no se mostraron favorables a los planes de autocontrol, ya que según su parecer estos sólo son plausibles en un número muy pequeño de pacientes.

*Conclusión:* Los resultados obtenidos proporcionan una posible explicación de por qué los niveles de control del asma son actualmente insatisfactorios en la vida real.

**Palabras clave:** Asma. Control. Médicos. Conocimiento.

## Introduction

The aim of asthma therapy is to achieve and maintain disease control by minimizing symptoms and their impact on activities of daily living and to reduce the risk of life-threatening exacerbations and long-term morbidity [1].

Large population-based studies have clearly shown that an achievable level of control is not always reached. The AIRE (Asthma Insights and Reality in Europe) study, for instance, which involved over 2800 asthma patients from different European countries, showed that asthma symptoms were part of many patients' everyday lives [2]. More than half of those interviewed reported daytime symptoms and a third reported sleep disruption due to asthma. In the INSPIRE (INternational aSthma Patient Insight REsearch) study, which involved the interview of 3415 treated asthma adults by telephone, nearly 74% of patients used a short-acting bronchodilator every day and 51% had had at least 1 exacerbation requiring medical treatment in the preceding year [3].

There are many reasons why asthma control is not achieved, including the type of asthma phenotype, the presence of comorbidities [4], and nonadherence to treatment [5]. Nevertheless, physicians' knowledge, beliefs, and behavior are also crucial factors when it comes to prescribing the best possible treatment, carrying out appropriate follow-up, and ensuring adherence to treatment [6].

We conducted a survey among general practitioners (GPs) and specialists to examine a series of physician-related factors that can contribute to the failure to achieve optimal levels of asthma control.

## Methods

General practitioners attending a continuous medical education course held in Italy and respiratory medicine specialists teaching at this course filled in a questionnaire

designed to investigate aspects concerning asthma pathogenesis and control, applicability of research and guidelines in daily practice, and doctor-patient relationships. The questionnaire was completed before the course began.

A descriptive analysis of the answers to the questionnaires was performed and the  $\chi^2$  test was used to test for an association between questionnaire answers and belonging to a particular group (GPs or specialists).

## Results

The questionnaire was given to 811 GPs and 230 specialists. Four of the questions were designed to explore the respondents' knowledge of asthma and asthma control. The results concerning the ability to correctly identify level of asthma control are shown in Table 1.

In the GP group, 59.19% of those that answered this section (n=789) declared that they were familiar with but did not use the Asthma Control Test, while 20.15% were both familiar with and used it. A significantly higher proportion of the specialists that answered this section (n=212) knew and used the test ( $P<.0001$ ).  $\chi^2$  analysis showed a significant association between answers to this question and belonging to a group (GPs or specialists:  $\chi^2=51.7$ ,  $P<.0001$ ).

Both groups considered the Asthma Control Test to be the most useful control instrument after spirometry (17.14% of GPs and 32.43% of specialists;  $P<.0001$ ) and also considered it to be more useful than both an objective examination (13.56% of GPs, 10.36% of specialists;  $P=.103$ ) and peak flow measurement (9.99% GPs, 11.71% specialists;  $P=.228$ ).

Both GPs and specialists (90.66% of the 792 and 91.98% of the 212 that answered this question, respectively) considered chronic inflammation to be the most important factor in asthma pathogenesis, and agreed that it was more important than bronchial muscle contraction ( $\chi^2=0.36$ ,  $P=.55$ ).

Table 1. Summary of Answers by General Practitioners (GPs) and Respiratory Medicine Specialists to Questions Regarding Level of Asthma Control

Should a patient who has symptoms once a week, no nocturnal awakenings or limitation in daily activities, and does not have to use salbutamol as needed be considered uncontrolled, partly controlled, or controlled?

Respondents: 789/811 GPs, 221/230 specialists

	Uncontrolled	Partly controlled	Controlled	GPs vs Specialists
GPs, No. (%)	184 (23.32)	511 (64.77)	94 (11.91)	$\chi^2=26.51$ $P<.0001$
Specialists, No. (%)	20 (9.05)	157 (71.04)	44 (19.91)	

Should a patient who has symptoms at least twice a week, no nocturnal awakenings or limitation in daily activities, and has to use salbutamol as needed 3 times a week be considered uncontrolled, partly controlled, or controlled?

Respondents: 775/811 GPs, 215/230 specialists

	Uncontrolled	Partly controlled	Controlled	GPs vs Specialists
GPs, No. (%)	581 (74.97)	177 (22.84)	17 (2.19)	$\chi^2= 4.44$ $P=.1085$
Specialists, No. (%)	146 (67.91)	61 (28.37)	8 (3.7)	

Table 2. Summary of Answers by General Practitioners (GPs) and Respiratory Medicine Specialists to Questions Regarding Patient and Asthma-Related Issues and Perceptions of Clinical Trial Results and the Applicability of Guidelines in Routine Practice

What percentage of patients should receive non-continuous treatment on the basis of patient or asthma characteristics

Respondents: 756/811 GPs, 214/230 specialists

	0%-20%	20%-40%	40%-80%	80%-100%	GPs vs Specialists
GPs, No. (%)	484 (64.02)	211 (27.91)	46 (6.08)	15 (1.98)	$\chi^2= 1.12$ $P=.77$
Specialists, No. (%)	137 (64.02)	64 (29.91)	10 (4.67)	3 (1.40)	

In what percentage of asthma patients is a self-management plan feasible?

Respondents: 670/811 GPs, 204/230 specialists

	0%-20%	20%-40%	40%-80%	80%-100%	GPs vs Specialists
GPs, No. (%)	436 (65.07)	181 (27.02)	31 (4.63)	22 (3.28)	$\chi^2= 12.76$ $P=.0052$
Specialists, No. (%)	121 (59.31)	75 (36.77)	8 (3.92)	0(0)	

What percentage of clinical trial results are confirmed in real life?

Respondents: 727/811 GPs, 205/230 specialists

	0%-20%	20%-40%	40%-80%	80%-100%	GPs vs Specialists
GPs, No. (%)	179 (24.62)	311 (42.78)	158 (21.73)	79 (10.87)	$\chi^2=3.28$ $P=.35$
Specialists, No. (%)	43 (20.98)	92 (44.88)	53 (25.85)	17 (8.29)	

To what extent are guidelines applicable in real life?

Respondents: 720/811 GPs, 207/230 specialists

	0%-20%	20%-40%	40%-80%	80%-100%	GPs vs Specialists
GPs	107 (14.86)	287 (39.86)	178 (24.72)	148 (20.56)	$\chi^2=9.19$ $P=.0269$
Specialists	27 (13.04)	62 (29.95)	65 (31.40)	53 (25.60)	

When asked which therapeutic model they thought was best for achieving asthma control, the majority of respondents in both groups (57.69% of 787 GPs and 54.21% of 214 specialists,  $P=.181$ ) stated a continuous fixed-dose regimen with periodic medical control. This dose regimen in combination with additional administration on an as-needed basis decided by the patient was considered best by 29.48% of GPs and 30.84% of specialists ( $P=.350$ ). A continuous fixed-dose regimen with the option of dose modulation independently of the physician was chosen by 6.99% of GPs and 7.48% of specialists and finally, a variable regimen in terms of number of doses and period of treatment on an as-needs basis decided by the patient was chosen by 5.84% of GPs and 7.48% of specialists.

The results concerning patient and asthma-related questions and perceptions of clinical trial results and the applicability of guidelines in real life are reported in Table 2.

There were significant differences between GPs and specialists in the kind of relationship established with the patient, with the former more inclined to adopt a paternalistic approach (35.62% vs 29.17%, respectively;  $P=.038$ ), and a cooperative approach (28.63% vs 21.30%, respectively;  $P=.016$ ). Specialists, in contrast, more often adopted an informative approach (11.57% vs 4.71%, respectively;  $P=.0001$ ) or an interpretative one (37.96% vs 31.04%, respectively;  $P=.027$ ).

There were no significant between-group differences regarding opinions on factors that influence nonadherence to therapy, ( $\chi^2=1.40$ ,  $P=.924$ ), with 93.22% of GPs and 92.51% of specialists stating that the doctor-patient relationship and the patient's level of education were decisive factors. Other factors such as drug characteristics, patient expectations, administration route, and number of daily doses were all considered less important by GPs (6.78%) and specialists (7.49%).

## Discussion

This study highlights the fact that better asthma control might be achieved if physicians' knowledge of certain aspects related to asthma and its treatment were improved.

Our survey shows that neither the GPs nor respiratory medicine specialists that answered our questionnaire are well equipped to identify the level of asthma control in their patients. Although the respondents were very familiar with the fundamental role played by chronic inflammation in asthma pathogenesis, they were of the opinion that a very large percentage of patients (40%) did not need continuous drug treatment.

The treatment regimen preferred by both GPs and specialists seems to be the continuous fixed-dose regimen. They do not seem to be in favor of the use of self-management plans and consider that such plans are only possible in a very small percentage of patients.

Another noteworthy finding that emerged from the survey was that neither GPs nor specialists had complete trust in the applicability of clinical trial findings and guidelines in real life.

We detected many significant differences between GPs and specialists in terms of the doctor-patient relationship. Less than one third of GPs and just a fifth of specialists adopted a cooperative approach (aimed at actively involving the patient in the entire treatment process and building a partnership), preferring instead, and particularly in the case of GPs, a paternalistic approach, which, considering that asthma is a chronic disease, might not be ideal as it involves a passive role on the part of the patient and limited autonomy. Specialists were more inclined to take an informative, consultative, and interpretative approach, in which they clarified patients' objectives.

For both GPs and specialists, level of patient education was the key determinant of adherence to treatment [7], followed by the doctor-patient relationship. Patient expectations and treatment peculiarities were considered less important aspects.

The findings of this survey provide, on the one hand, an explanation for the poor level of asthma control seen in daily practice, and on the other hand, guidance for the development of targeted informative and training programs.

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