

Original Article

Taking Aim at Asthma Around the World: Global Results of the Asthma Insight and Management Survey in the Asia-Pacific Region, Latin America, Europe, Canada, and the United States

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What is already known about this topic? Prior asthma surveys, conducted from 1998 to 2004 in various countries, reported levels of symptoms, activity limitations, and urgent treatment (eg, hospitalization) in patients with asthma, as well as the level of overall asthma control.

What does this article add to our knowledge? This examination of results from surveys conducted from 2009 to 2011 on patients with asthma in 20 countries provides new insight into regional differences and similarities in patients' asthma characteristics, and it reveals numerous unmet needs with regard to the current state of asthma care and overall patient expectations.

How does this study impact current management guidelines? The global Asthma Insight and Management surveys found patient-exhibited lack of conviction on asthma treatment recommendations and management guidelines and revealed an ongoing need for improvements in asthma care.

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*Abbreviations used**AIM- Asthma Insight and Management**AIR- Asthma Insight and Reality**AP- Asia-Pacific**EPR-3- National Asthma Education and Prevention Program
Expert Panel Report 3**EUCAN- Europe and Canada**GINA- Global Initiative for Asthma**LA- Latin America**US- United States*

BACKGROUND: Asthma, a worldwide health problem, can be controlled if properly diagnosed and managed. Multinational surveys conducted in patients with asthma from 1998 to 2003 indicated that asthma was inadequately controlled. The Asthma Insight and Management (AIM) study represents the largest survey conducted on patients with asthma since 2003.

OBJECTIVE: The objective of this study was to assess findings from the United States (US), Europe and Canada (EUCAN), Latin America (LA), and the Asia-Pacific (AP) region surveys to identify differences and similarities with earlier surveys on patients with asthma.

METHODS: The US, EUCAN, LA, and AP AIM surveys conducted from 2009 to 2011 all used a common set of questions. Responses to these are reported as proportions of patients with asthma for each country individually, and as totals for all regions. Results are presented as mean/median proportions for US, EUCAN, LA, and AP survey populations individually. Global medians and the range of regional response values are also described.

RESULTS: A total of 10,302 patients or parents of adolescents with asthma were interviewed. Approximately one-quarter reported daytime symptoms daily or on most days over the previous 4 weeks. Globally, a median of 67% (range, 27%-88%) of patients perceived their asthma as completely and/or well controlled, but a median of only 9% (range, 0%-29%) of patients had well-controlled asthma using criteria from asthma guidelines. A majority ($\geq 60\%$) of patients felt that quick-relief medication could be used daily if needed, contrary to guideline recommendations.

CONCLUSIONS: Patients exhibited a lack of knowledge and conviction for treatment recommendations and guidelines that was relatively uniform across the regions, similar to earlier survey findings. These results reveal an ongoing need for improvement in asthma care and education in most populations. © 2015 American Academy of Allergy, Asthma & Immunology (J Allergy Clin Immunol Pract 2015;■:■-■)

Key words: Asthma; Control; Guidelines; Management; Symptoms; Survey; Treatment

Asthma is a major and growing public health problem across developed and developing countries. The World Health Organization has estimated that as many as 235 million people across the world have asthma.¹ Insights into real-life asthma management practices have been provided in the past by surveys conducted in the United States (1998),² Europe (1999),³ the Asia-Pacific region (2000),⁴ and Latin America (2003).⁵ Also, a global Asthma Insight and Reality (AIR) survey was reported in 2004.⁶ Prior asthma surveys reported levels of symptoms, activity

limitations, and urgent treatment (eg, hospitalization), as well as the level of overall asthma control.

The Asthma Insight and Management (AIM) survey, the largest survey of adults and adolescents with asthma conducted since 2003, reveals numerous unmet needs with regard to the current state of asthma care and overall patient expectations. The AIM survey was first completed in the United States in 2009,^{7,8} with subsequent AIM surveys completed in Canada, Germany, Italy, Spain, and the United Kingdom (EUCAN);⁹ 8 Asia-Pacific (AP) countries (Australia, China, India, Malaysia, Singapore, South Korea, Taiwan, and Thailand) and Hong Kong;¹⁰ as well as 5 Latin America (LA) countries and/or regions (Argentina, Brazil, Mexico, Puerto Rico, and Venezuela).¹¹ Although findings for each of the above regions have been reported,⁷⁻¹¹ an evaluation and comparison of the findings across worldwide regions has not been undertaken. We examined the similarities and differences in findings from the AP, LA, EUCAN, and US AIM surveys for patients' self-reported frequency of asthma symptoms and severe episodes; their perceived level of asthma control; their use of regular asthma medication; and their requirement for urgent treatment. Furthermore, we investigated what, if any, asthma-care characteristics have changed over the past decade since the global AIR survey⁶ was completed. The aim of our analysis was to get a better insight into regional differences in asthma management that may help identify effective asthma management strategies in the future. Although the results of AIM from different regions have been published individually, this examination offers insight into the differences and similarities across the globe.

METHODS

The AIM study was conducted from 2009 to 2011 in 20 countries in North America, Europe, Latin America, and the AP region. The details of the study designs and methodology have been published previously^{7,8,10,11} or presented online.¹² In the AP region, the original US AIM survey was translated from English to local languages, then back-translated to English, and compared with the original US version. In addition, the survey questions were pretested to increase the confidence that these questions were understood. This examination of global AIM survey findings was conducted to characterize the similarities and differences in the results from the US, EUCAN, AP, and LA AIM surveys. Responses to survey questions are reported as proportions of survey respondents for each country individually and as summated values for each of the EUCAN, AP, and LA surveys. As previously reported,^{7,10-12} screening for AIM survey respondents identified households in which at least 1 adult or adolescent (aged 12-17 years) had physician-diagnosed asthma and experienced symptoms or used asthma treatment during the previous year. Interviews following informed consent from patients with asthma or parents of adolescents with asthma were conducted by telephone in the United States,⁷ Europe, Canada,¹² Australia, China, and Hong Kong.¹⁰ Face-to-face interviews were used in India, Malaysia, Singapore, South Korea, Taiwan, and Thailand, and all countries of Latin America.^{10,11}

The AIM survey included 53 questions addressing asthma symptoms, exacerbations, control, and treatment as well as attitudes about asthma management. It was designed to evaluate whether patient perceptions and realities of asthma control are in accordance with the 2007 National Asthma Education and Prevention Program

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