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Short Communication

Severe Asthma Units in Spain: Enhancing Patient Care and Research in Severe Asthma

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ABSTRACT

Asthma units in Spain are multidisciplinary hospital-based clinics led by pulmonologists and/or allergists. They are designed to optimize diagnosis, identify and manage comorbidities, and improve asthma control and patients' quality of life, particularly for those with severe asthma. These units have proven to be clinically effective and economically efficient, representing an innovative model for asthma management.

Accreditation by the Spanish societies of pulmonology and allergology (SEPAR and SEAIC) ensures excellence by establishing quality standards and promoting continuous staff training. However, disparities in resources and availability appear to exist between autonomous communities.

While this model has been successful, it has not yet been widely implemented globally, and its adoption could enhance the management of severe asthma in other countries.

Unidades de asma grave en España: Potenciando la atención al paciente y la investigación en el asma grave

Palabras clave:
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RESUMEN

Las unidades de asma en España son clínicas multidisciplinares hospitalarias lideradas por neumólogos y/o alergólogos. Están diseñadas para optimizar el diagnóstico, identificar y manejar comorbilidades y mejorar el control del asma y la calidad de vida de los pacientes, especialmente aquellos con asma grave. Estas unidades han demostrado ser efectivas clínicamente y rentables económicamente, representando un modelo innovador en el manejo del asma.

La acreditación por las sociedades españolas de neumología y alergología (SEPAR y SEAIC) garantiza la excelencia, estableciendo estándares de calidad y fomentando la formación continua del personal. Sin embargo, parecen existir disparidades en recursos y disponibilidad entre comunidades autónomas.

Este modelo, aunque exitoso, no está ampliamente implementado a nivel global, y su adopción podría beneficiar la gestión del asma grave también en otros países.

Asthma is a highly prevalent chronic disease that consumes a significant proportion of healthcare resources.[1] The main goal of its treatment is to achieve and maintain disease control, which can be accomplished in most patients through appropriate treatment and individualized educational programs.[2] It is estimated that 50% of patients with asthma do not achieve disease control, leading to an increase in exacerbations and patient morbidity, a higher risk of death, a need for more intensive treatment, and a heavier economic burden for the healthcare system.[3] This is especially relevant in severe asthma, as the 10% of patients who present

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Table 1
Human and technical resources available in the asthma units.

Health professionals (total health professionals, *N* = 537)		Technical resources and procedures available per UA (total UAs, *N* = 56)	
Allergists. *n*/*N* (%)	110/537; (20.48%)	Determination of total IgE. *n*/*N* (%)	56/56 (100%)
Pulmonologists. *n*/*N* (%)	100/537; (18.62%)	Determination of specific IgE (complete allergen). *n*/*N* (%)	56/56 (100%)
Skilled nursing professionals. *n*/*N* (%)	98/537; (18.25%)	Spirometry. *n*/*N* (%)	56/56 (100%)
Otorhinolaryngologist. *n*/*N* (%)	69/537; (12.85%)	Intradermal skin test or Prick test. *n*/*N* (%)	55/56 (98.2%)
Hospital pharmacists. *n*/*N* (%)	66/537; (12.29%)	Determination of FeNO. *n*/*N* (%)	55/56 (98.2%)
Pediatricians. *n*/*N* (%)	41/537; (7.64%)	Access to bronchofibroscopy. *n*/*N* (%)	52/56 (92.9%)
Psychologists. *n*/*N* (%)	15/537; (2.79%)	Access to nasal rhinoscopy. *n*/*N* (%)	49/56 (87.5%)
Research biologists. *n*/*N* (%)	6/537; (1.12%)	Arterial/venous blood gas analysis. *n*/*N* (%)	48/56 (85.7%)
Endocrinologists. *n*/*N* (%)	6/537; (1.12%)	Stress test. *n*/*N* (%)	48/56 (85.7%)
Gastroenterologist. *n*/*N* (%)	5/537; (0.93%)	Diffusion test. *n*/*N* (%)	47/56 (83.9%)
Psychiatrists. *n*/*N* (%)	5/537; (0.93%)	Access to nasal fibroendoscopy. *n*/*N* (%)	47/56 (83.9%)
Medical fellows. *n*/*N* (%)	5/537; (0.93%)	Determination of specific IgE (molecular diagnosis by components). *n*/*N* (%)	45/56 (80.4%)
Immunologists. *n*/*N* (%)	4/537; (0.74%)	Plethysmography. *n*/*N* (%)	44/56 (78.6%)
ACTN. *n*/*N* (%)	3/537; (0.56%)	Access to rhinometry. *n*/*N* (%)	32/56 (57.1%)
Emergency physicians. *n*/*N* (%)	1/537; (0.19%)	Oscillometry. *n*/*N* (%)	31/56 (55.4%)
CRO. *n*/*N* (%)	1/537; (0.19%)	Specific bronchial provocation test. *n*/*N* (%)	24/56 (42.9%)
Rehabilitators. *n*/*N* (%)	1/537; (0.19%)	Induced sputum. *n*/*N* (%)	22/56 (39.3%)
Speech therapists. *n*/*N* (%)	1/537; (0.19%)	Olfactometry. *n*/*N* (%)	11/56 (19.6%)
Clinical pharmacologists. *n*/*N* (%)	1/537; (0.19%)		
Rheumatologists. *n*/*N* (%)	1/537; (0.19%)		
Dermatologists. *n*/*N* (%)	1/537; (0.19%)		
Social workers. *n*/*N* (%)	1/537; (0.19%)		

ACTN: auxiliary care technician of nursing; CRO: contract research organization; FeNO: fractional exhaled nitric oxide.

severe disease account for most of the costs associated with the disease.[4]

To deal with this situation, Spain has implemented a system of asthma units. These units are multidisciplinary, hospital-based clinics led by a pulmonologist and/or an allergist. The initiative arose from the need to establish specialized teams to optimize diagnosis (reduce underdiagnosis and overdiagnosis), identify comorbidities contributing to poor control, and to improve asthma control and quality of life of asthma patients,[5] especially those with severe disease. Previous studies have shown that these asthma units not only improve the clinical situation of patients but are cost effective as well.[6]

The implementation of asthma units in healthcare facilities must meet the expectations of professionals, patients, and managers, whose interests may be different and complementary.[7,8] It is, therefore, important to certify the quality of asthma units in an appropriate manner. Asthma units in Spain can obtain accreditation through the Spanish Society of Pulmonology and Thoracic Surgery (SEPAR), the Spanish Society of Allergology and Clinical Immunology (SEAIC), or both. Different degrees of accreditation are granted, depending on whether or not they meet certain essential requirements and other parameters previously established by these societies (Tables S1–S3). In addition to the appropriate diagnostic and therapeutic resources, one of the key requirements for SEPAR and/or SEAIC accreditation is that healthcare personnel working in the unit must have a minimum of 5 years' experience in asthma management and evidence of participation in accredited training courses.[7,8] To ensure excellence and quality, it is crucial that the staff develop their knowledge and experience through appropriate continuing education programs and involvement in research projects. The standardization of procedures in asthma units, such as referrals from the emergency department or the use of telemedicine, is also highly valued.[9–11]

A survey was conducted between March and July 2022 to determine the status and compliance with quality standards among accredited asthma units in Spain, in which the coordinators of each unit were invited to participate and respond. This was the first time that a multifaceted survey had been conducted to assess the real-world, functional situation of these units, and the aim was to collect data on human and material resources, the portfolio of services, and healthcare activity. The survey consisted of a series of questions regarding the locality, type of center and accreditation, characteristics of the consultation, number of patients seen, capacity to administer biological therapy, and the existence of a nursing consultation.

A total of 56 of the 89 asthma units accredited by SEPAR, SEAIC, or both at the time of the survey, representing 537 health professionals, responded. Table 1 specifies the specialties and the resources available in them. Notably, this table reflects the total number of healthcare professionals involved in the asthma units, not the average percentage of each specialty per unit. As a result, pulmonologists and allergists account for less than 40% of the total, but their combined number exceeds 200, ensuring that at least one of these specialties is always represented in every asthma unit. At the time of the survey, there were more SEPAR-accredited than SEAIC-accredited units nationwide, but a higher proportion of SEAIC units responded (94.12% vs. 43.75%; Table S4). This explains to some extent the higher number of allergists compared to pulmonologists in this survey. It is worth noting that the number of patients seen in asthma units and the availability of written protocols increased as the degree of accreditation increased (Tables S5 and S6).

This survey also revealed some limitations in the implementation of asthma units. They are not available in all autonomous communities, and, even when they are accredited, resources vary widely, depending on the particular situation in each center or regional health regulations. For example, not all asthma units with the same level of accreditation have the same logistical and space resources (Table S7). Furthermore, Supplementary Figures 1 and 2 illustrate the disparities among autonomous communities in Spain regarding the availability of certain specialized techniques.

The timing of the survey is also relevant, as many of its results are susceptible to variation over time. Since this is a dynamic model designed to achieve greater excellence, many of the procedures can be adapted to the prevailing circumstances, as occurred with the rise of telemedicine during the COVID-19 pandemic. This survey, therefore, offers a snapshot of the asthma unit situation at a specific time, while subsequent surveys will show how they evolve. This is especially relevant since, given the success of this model and the considerable interest it is generating, growing numbers of asthma units are applying for accreditation in Spain.

Asthma units play a crucial role in the medical care of asthma patients, especially those with severe or uncontrolled disease. Accreditation certifies excellence and serves as a route map for improvement, while reaccreditation processes not only guarantee excellence over time but also impact on the training of the staff involved. These findings are consistent with the Severe Asthma Index developed by the Respiratory Health Initiative, which reflects Spain's strong respiratory care system, despite the absence of a National Asthma Plan among its core sections.[12] In the future, incorporating patient-reported experience measures (PREMs) could help to objectively assess the impact of asthma units from the patient's perspective.

Unfortunately, this specialized model is not widely implemented, despite the benefits. While countries like Portugal are developing similar multidisciplinary approaches,[13] others, such as Italy, have yet to establish comparable structures. Therefore, the export and implementation this model could also enhance the management of severe asthma in other countries.

Declaration of generative AI and AI-assisted technologies in the writing process

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Authors' contributions

All authors have participated equally in the creation of the text.

Conflicts of interests

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Appendix A. Supplementary data

Supplementary data associated with this article can be found in the online version available at https://doi.org/10.1016/j.opresp.2025.100474.

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