Sánchez et al. World Allergy Organization Journal (2023) 16:100832
http://doi.org/10.1016/j.waojou.2023.100832

WORLD ALLERGY ORGANIZATION JOURNAL

Open Access

Physician practices and attitudes towards atopic dermatitis in Latin America: A cross-sectional study

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ABSTRACT

Background: The prevalence of atopic dermatitis (AD) is increasing in developing countries. Different worldwide guidelines have been proposed, but their applicability for AD specialists in Latin American (LA) countries is unknown.

Objective: The objective of this study was to explore the medical approach to treating AD in LA countries.

Methods: The study population comprised AD specialists (allergists and dermatologists). They completed an electronic survey containing questions about the health system, diagnostic criteria, and pharmacotherapy approach to treating AD. The survey was constructed and validated by the Atopic Dermatitis Committee of the Latin American Society of Allergy Asthma and Immunology (SLAAI) in Spanish and Portuguese. Each member was responsible for distributing the questionnaire through different networks in their respective countries.

Results: A total of 284 AD specialists from 13 LA countries completed the questionnaire; among them, 67% were allergists and 33% were dermatologists. Less than 50% of the AD specialists strictly followed guideline recommendations. Among the AD specialists, the European and North American guidelines were more frequently used, and only 16% followed LA guidelines. Dermatologists used the local guidelines less frequently than allergists. Most physicians did not routinely use AD assessment tools (55%). The frequency of the diagnostic tests depends on symptom severity. The availability of some systemic treatments, such as biologics and Janus Kinase (JAK) inhibitors, is not universal in all LA countries.

Conclusion: There were marked differences between the specialists, and these differences seemed to be affected by their specialty and each country's healthcare system. New AD education strategies that consider the particularities of the region could allow patients to be more accurately

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http://doi.org/10.1016/j.waojou.2023.100832

Received 17 April 2023; Received in revised from 28 September 2023; Accepted 5 October 2023
Online publication date xxx
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managed. AD assessment tools may provide a way to enhance AD treatment and allow for shared decision-making, patient empowerment, and standardized care.

Keywords: Atopic, Dermatitis, Eczema, Latin America, Management

INTRODUCTION

The prevalence of atopic dermatitis (AD) is increasing in developing countries.[1-3] Despite a worldwide similar presentation, there is little information about this inflammatory skin disorder in the Latin American (LA) region.[1] North American and European guideline recommendations are based not only on clinical evidence but also on local characteristics.[4-6] For example, the use of emollients is highly recommended for all patients, and some immunomodulators such as dupilumab, upadacitinib, abrocitinib, and baracitinib are approved in most developed countries to treat severe AD. On the other hand, most Latin American countries have a low per capita income, and in most of them, patients pay for their heath treatment.[7-9] Owing to these and other social challenges (eg, sociocultural aspects, patient beliefs, and healthcare systems limitations), adhering to treatment guidelines is difficult in most LA populations, and many patients with AD receive ineffective or inappropriate care.[7-9] In this article, we present a descriptive evaluation of the attitudes towards the diagnosis and management of AD in LA, and we also describe possible medical barriers and healthcare system particularities.

METHODS

Study design

We conducted a descriptive cross-sectional survey for this study. The focus of the AD committee of the SLAAI was to understand how to manage atopic dermatitis from different perspectives, including access to health systems, patients' characteristics, and medical preferences that influence treatment. The study involved AD specialists (allergists and dermatologists) and patients from Latin American countries. In this article, we present the information collected from the physicians.

The AD committee of the Latin American Society of Allergy Asthma and Immunology (SLAAI) conducted 3 meetings to identify the deficits in our scientific knowledge about AD in Latin America. Subsequently, the committee developed a survey to understand the AD management approaches used by medical specialists. Additionally, a second questionnaire on the availability and access to high-cost treatments (eg, dupilumab, Janus Kinase [JAK] inhibitors) was distributed among the committee members.

The study had a descriptive design without a prior hypothesis, so we did not perform a statistical sample size calculation. Nevertheless, based on the results of previous surveys,[7,8] we considered that the inclusion of at least 5 physicians from different centers in each country was necessary to more accurately interpret the information and compare the results from the specialists from different countries.

Survey characteristics

The questionnaire was developed by the SLAAI dermatitis committee through virtual workshops during the year 2022. In the meetings, the topics of the questionnaire were chosen, and the included questions were agreed upon. The construction of a standardized questionnaire ensures that the information collected is comparable among different countries. The survey was translated from Spanish to Portuguese, the 2 languages spoken by the studied populations, and these translations were validated by the AD committee staff. Additionally, a cross-validation was conducted via external evaluation by 2 native Portuguese speakers from Brazil. In addition to the grammar evaluation, in a pilot study, we assessed the clarity and understanding of the questionnaire, and we found that 98% of the questions were well understood. The survey had 5 domains: the characteristics of the clinicians, diagnosis, paraclinical tools,

pharmacotherapy, and possible access barriers (see the supplemental material for more details). The survey was distributed online using "Google Workspace".

Statistical analysis

This is a descriptive study. Due to the non-normal data distribution, we used the median and range to present the measures of central tendency and dispersion. As an exploratory analysis, we compared the responses obtained from the physicians by using chi-square, and Mann Whitney tests.

RESULTS

Population characteristics

A total of 284 physicians from 13 Latin American countries agreed to participate in this study. Most of the specialists who answered the survey were allergists (67%), and 33% were dermatologists. Of the AD specialists, 23% had a subspeciality, with pediatrics (20%) being the most frequent. The distribution of the allergists/dermatologists in all the countries was heterogeneous, perhaps due to the number of specialists in each country. Most physicians saw patients in outpatient facilities (67%) and public health care system (39.7%) (Table 1).

Physicians' perception of atopic dermatitis guidelines

Most AD specialists use the American Academy of Dermatology (38%) and EuroGuiDerm (36%) guidelines, whereas the LA guidelines were used less frequently (Fig. 1). Additionally, 43% of the physicians reported no strict adherence to any of the guidelines (Fig. 1). Moreover, dermatologists used local guidelines less frequently than allergists (13.6% vs 8.6% $p = 0.02$). We did not observe statistical differences between physicians from different countries in terms of guideline preference and frequency of use.

Physicians' use of atopic dermatitis AD assessment tools

Most physicians reported that they do not routinely use AD assessment tools (55%) in daily practice, but 12% applied them to most patients (Fig. 2). Clinician-reported outcome measures (CROM) were used more frequently than patient-reported outcome measures (PROM). The SCORAD assessment tool was the most used, followed by the EASI. Allergists reported a preference in using SCORAD (50%) and dermatologists preferred the EASI (40%). Physicians who reported that they always or almost always use any of the tools generally chose at least one CROM and one PROM (56%). We did not find a relationship between consultation type (outpatient or hospital, private or public, by an allergist or dermatologist) and tool use. The use of AD assessment tools seems to depend on the patient's symptom severity; AD assessment tools were frequently used for patients with moderate to severe symptoms (92%) but not for patients with mild symptoms (8%).

Physicians' use of diagnostic tests

The frequency of diagnostic tests depended on the severity of symptoms. Allergists request atopy tests more frequently, while dermatologists tended to request biopsies (Fig. 3). Food and standard patch tests were less frequently requested among doctors in Colombia (14%) than in other Latin American countries (median: 20%) ($p = 0.04$). The food patch test for patients with moderate/severe AD was more frequently requested among physicians in Argentina (43%) and Mexico (44%) compared to the rest of the countries (median 29% $p = 0.05$).

Physicians' perception of pharmacotherapy

For patients with mild AD, first-generation antihistamines were frequently prescribed, especially by the dermatologists (Fig. 4); when the symptoms were moderate to severe, there were no significant differences in the drugs prescribed by the specialties. Topical steroids were the most common treatment regardless of atopic dermatitis severity. To treat patients with mild symptoms, 24% of the physicians reported using at least 1 systemic therapy; the most frequent was methotrexate (12%), followed by cyclosporine (8%). Systemic therapies were used to treat patients with moderate to severe symptoms by 94% of the specialists; cyclosporine, methotrexate, azathioprine, and phototherapy were the most frequent therapies, with rates varying according to the specialty

http://doi.org/10.1016/j.waojou.2023.100832

	AD Specialists (n 284)	Allergist (n 191)	Dermatologist (n 93)
Median age in Years (Range)	44 (31-68)	46 (26-58)	42 (29-68)
Female (%)	167 (58.8 %)	110 (58.8 %)	57 (61.2 %)
Type of Health Care Service			
Private (%)	94 (33 %)	53 (27.7 %)	41 (44 %)
Public (%)	113 (39.7 %)	83 (43.4 %)	30 (32.2 %)
Both (%)	77 (27.1 %)	55 (28.7 %)	22 (23.4 %)
Place of Clinical Care			
Ambulatory (%)	190 (66.9 %)	127 (66.4 %)	63 (67.6 %)
Hospital (%)	46 (16.1 %)	28 (14.6 %)	18 (19.3 %)
Both (%)	48 (16.9 %)	36 (18.8 %)	12 (12.9 %)
Physicians by Countries			
Colombia (%)	54 (19 %)	41	13
Ecuador (%)	44 (17.3 %)	29	15
Peru (%)	32 (11.2 %)	21	11
Brazil (%)	27 (9.5 %)	20	7
Argentina (%)	28 (9.8 %)	19	9
Cuba (%)	8 (2.8 %)	5	3
Mexico (%)	21 (7.3 %)	16	5
Panama (%)	7 (2.4 %)	5	2
Uruguay (%)	16 (5.6 %)	8	8
Venezuela (%)	18 (6.3 %)	10	8
Chile (%)	14 (4.9 %)	8	6
Guatemala (%)	5 (1.7 %)	2	3
Dominica Republic (%)	10 (3.5 %)	7	3

Table 1. AD specialists characteristics

and country. Specifically, dermatologists used phototherapy more frequently (46%) than allergists (32%); phototherapy was more frequently used in Brazil and Mexico (44% and 38%, respectively) than in the other countries; and dupilumab and JAK inhibitors were used more frequently by specialist in Argentina (32%), Brazil (28%), Mexico (27%), and Colombia (27%). The lowest use of phototherapy was among physicians in Panama (8%), Ecuador (5%), Venezuela (3%), and Cuba (0%). Prior to prescribing dupilumab or a JAK inhibitor, 93% of physicians reported having previously used at least 1 immunosuppressant and 67% of them reported having previously used at least 2.

DISCUSSION

Atopic dermatitis (AD) is a disease with high impact on the quality of life of patients and their

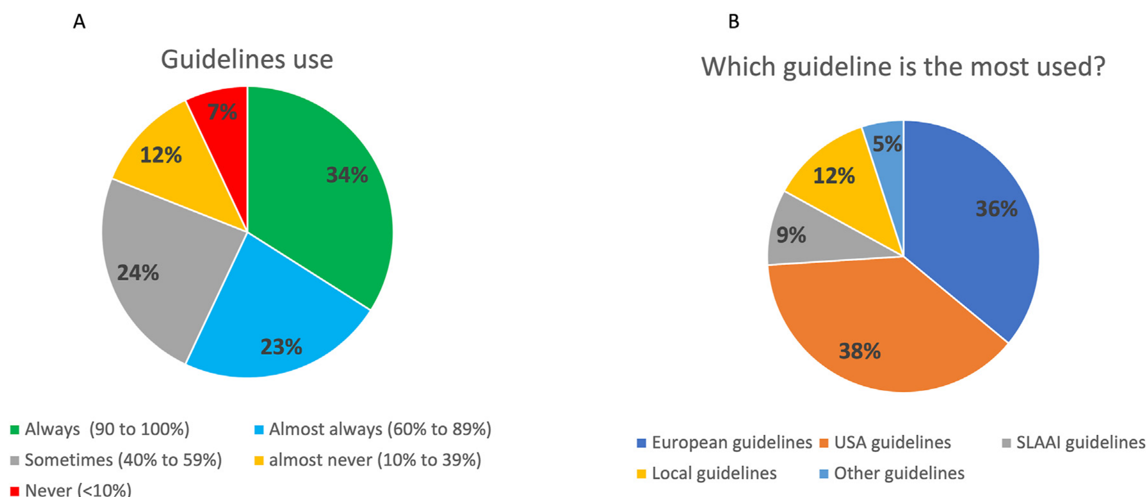

Fig. 1 Use of AD guidelines by specialists. Shows the frequency of guideline use reported by physicians (A) and the origin of the most used guides (B). "Local guides" refer to guidelines from each country where the surveyed doctor belongs, while "SLAAI guidelines" refer to guidelines from the Latin American Society of Allergy, Asthma, and Immunology

families.[10,11] This impact is even greater than that observed in other chronic diseases such as hypertension or diabetes, and AD is frequently associated with other comorbidities such as depression.[12,13]

Multiple AD guidelines offer recommendations for managing the disease, allowing for an orderly approach to disease control. Although the usefulness of these guidelines is controversial,[14] some are based on current clinical evidence and offer the best possible management.[4,5,15,16] As expected, the majority of the AD specialists reported using one of the current guidelines, but only half reported "almost always" following the recommendations. Various factors make guideline adherence difficult. In Latin American (LA) countries, economic conditions may limit access to some therapies, leading AD specialists to choose the best available and accessible treatment, which may not always be the preferred one.[7-9] For example, in Ecuador, Paraguay, and Cuba, access to therapies such as biologicals

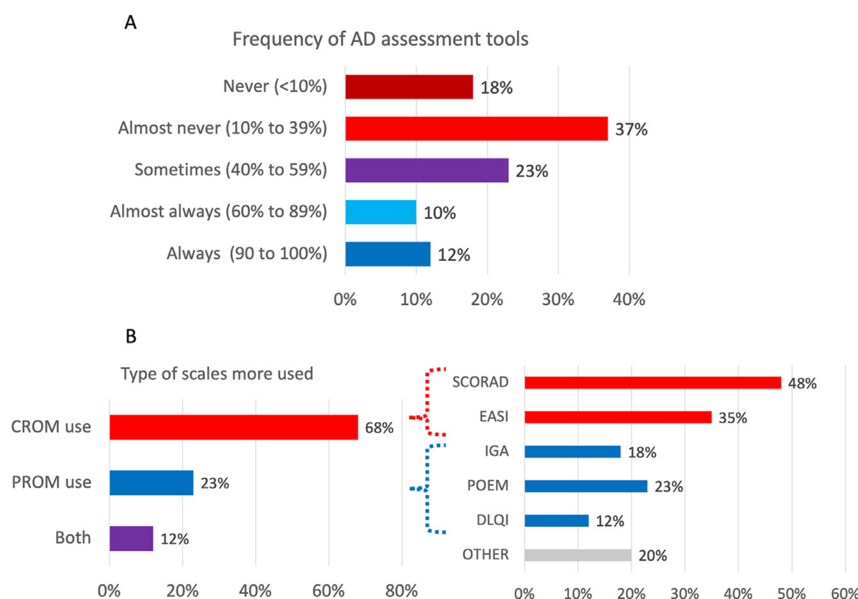

Fig. 2 AD assessment tools. Frequency of AD assessment tools (A) and frequency of clinician-reported outcome measure (CROM) and patient-reported outcome measure (PROM) use (B). The sum of the scales used is greater than 100% because 23% of the doctors used at least 2 scales in the evaluation of patients

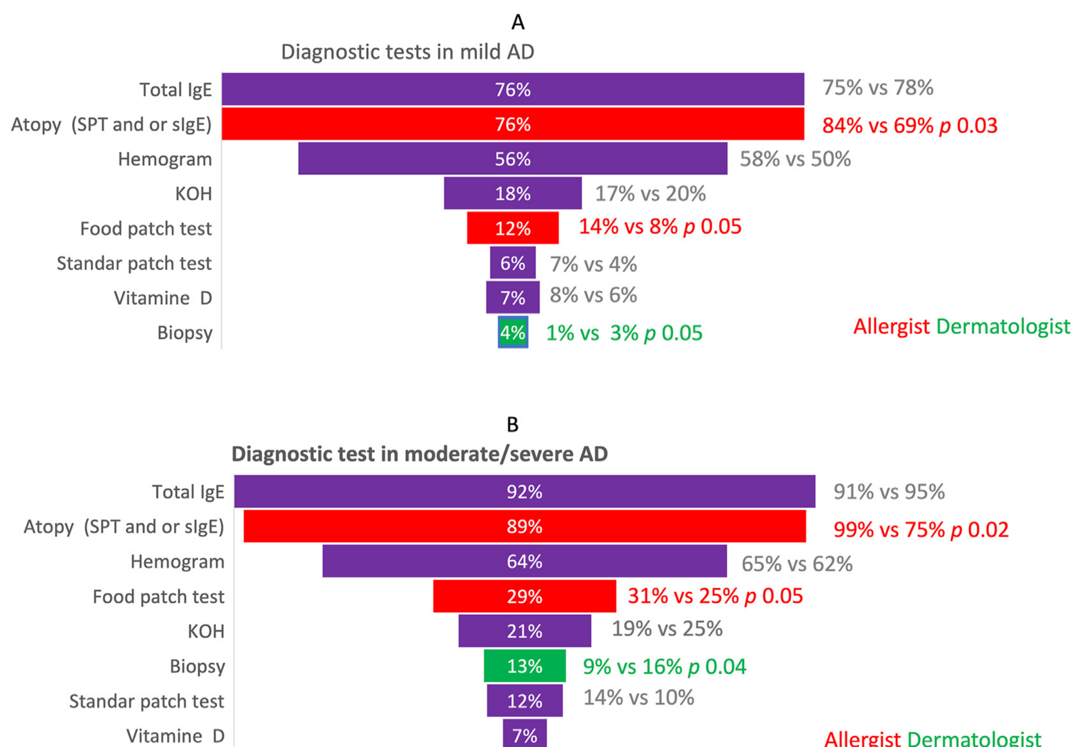

Fig. 3 Diagnostic tests. Demonstrates the percentage of physicians who answered "yes" or "no" to the diagnostic tests requested in at least 50% of patients with mild (A) or moderate/severe (B) AD symptoms. Most tests were requested at a similar frequency by allergists and dermatologists (purple box), with atopy and food patch tests more frequently used by allergists (red box) and biopsies by dermatologists (green box)

and small molecules is limited due to their unavailability or high cost to patients. Additionally, access to medical consultation is limited in some LA populations due to geographical conditions, health system restrictions, or sociocultural aspects, making it difficult to apply recommendations and conduct adequate medical follow-up.[9]

Most accepted recommendations for AD diagnosis and treatment management are based on studies involving European and North American populations, with few clinical trials including LA patients.[7-9] Despite this, most local guidelines in LA replicate the recommendations of the European and North American guidelines, with little consideration of regional aspects. The SLAAI[15,17] has considered various regional characteristics, including sociodemographic factors and access to diagnostic tests and treatment, when making recommendations. These observations highlight the need to reassess medical education in LA and identify barriers in each country's health systems that hinder specialists from following the best available medical evidence.

The use of AD assessment tools allows for quantifying the impact of the disease in different domains, such as severity, quality of life, and emotional impact.[18,19] Additionally, using standardized parameters for disease evaluation facilitates communication between different physicians.[18,19] However, AD specialists do not frequently use these tools. The main reasons identified for not using them are a lack of time during consultations and the belief that using assessment tools on patients with mild symptoms is not necessary. The SCORAD and the EASI were the most commonly used tools, indicating a preference for evaluating patients with clinician-reported outcome measures (CROMs) over patient-reported outcome measures (PROMs). However, for patients with moderate to severe symptoms, physicians more frequently used at least two tools to assess disease activity and the patient perception of control.

Regarding diagnostic tests, evaluation of Type 2 inflammation was frequent, especially among allergists. In contrast, dermatologists more frequently

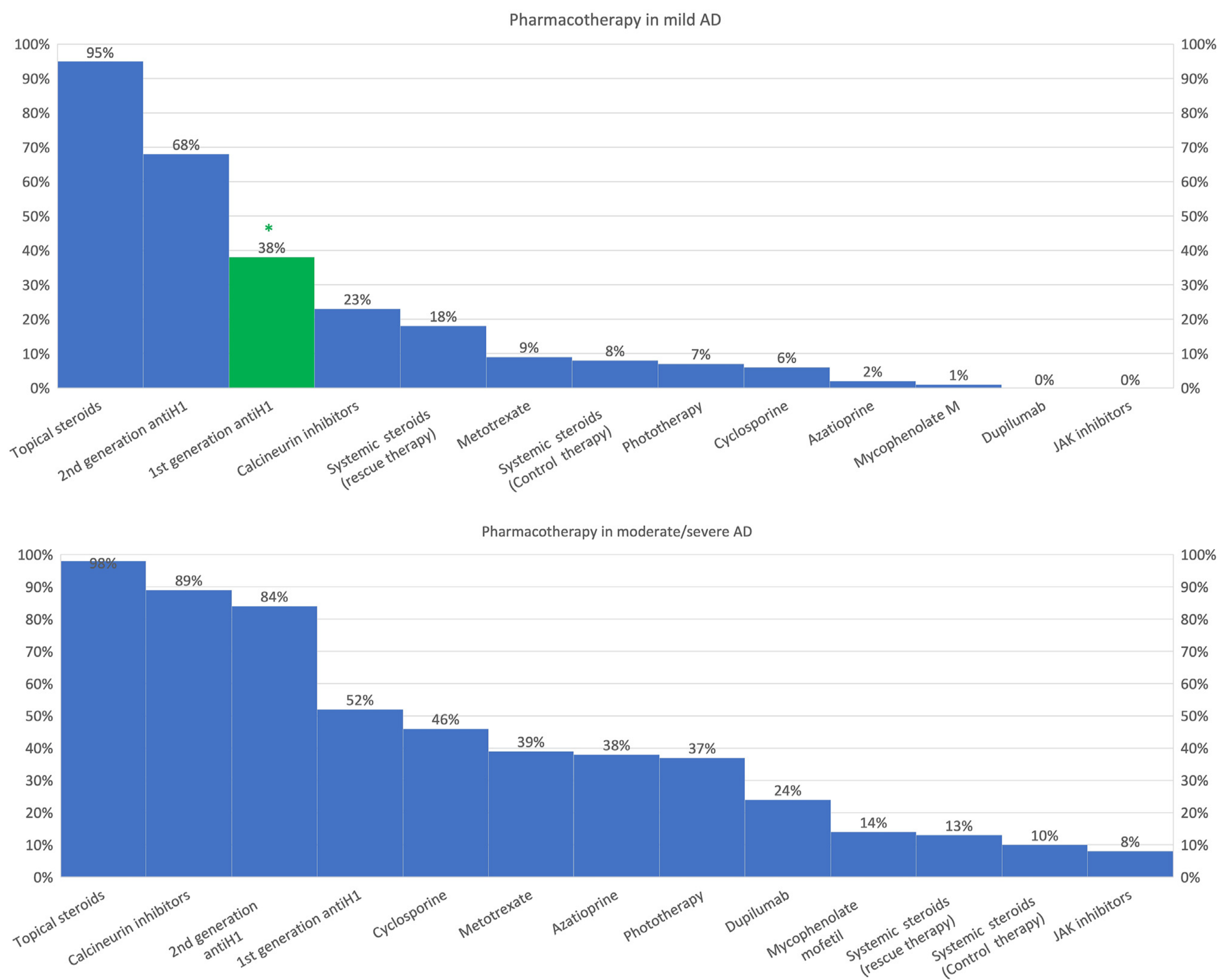

Fig. 4 AD pharmacotherapy. Illustrates the percentage of physicians who answered "yes" or "no" to the pharmacotherapy requested in at least 50% of patients with mild (A) or moderate/severe (B) AD symptoms. * Dermatologists used first-generation antihistamines more frequently than allergists (29% vs 49%, p = 0.02)

requested biopsies to confirm the AD diagnosis or identify comorbidities. These differences may be due, in part, to the academic focus of each specialty.

Although most guidelines do not recommend the use of antihistamines in patients with AD due to their limited clinical impact, physicians continued to regularly use them. Among dermatologists, first-generation antihistamines were very frequently used despite their low safety profile. The use of topical calcineurin inhibitors varied from country to country, possibly due to access barriers or treatment cost. Although immunomodulators and immunosuppressants were more frequently used in patients with moderate to severe symptoms, systemic steroids or other therapies were sometimes prescribed for patients with mild disease, possibly due to a lack of perceived control by the patient or acute and frequent relapses. Methotrexate and cyclosporine were the most frequent used systemic treatments in LA countries, even in countries such as Brazil, Mexico, Argentina, Chile, and Colombia, where the health system fully or partially covers modern therapies, including biological therapies and JAK inhibitors. This may be explained by local regulations requiring proof of failure or contraindication to immunosuppressants to provide access to Dupilumab or JAK inhibitors. Phototherapy was more frequently prescribed by the dermatologists,

as the procedure can be used to manage dermatologic diseases other than atopic dermatitis, and dermatology specialists may be more familiar with it or may be the only individuals authorized by health systems to order or perform it. Among Brazilian and Mexican specialists, phototherapy was more frequently used than among the physicians from other countries, possibly due to a greater availability. Additionally, countries with a higher gross domestic product (Argentina, Brazil, Colombia, Chile, and Mexico) had a higher rate of dupilumab and JAK inhibitors prescriptions, which is predictable considering the cost of these therapies and the fact that patients must spend high amounts of money for them in some Latin American countries.

This study has some limitations. Some countries were represented more than others, leading to a potential selection bias. Nevertheless, despite working under different contexts, there was a certain homogeneity in atopic dermatitis management in each country, and the study achieved its objective of describing these management forms. To contact the different doctors, the SLAAI network's emails were used, which could have generated a selection bias. However, many questions were not affected by this type of bias, and the participants came from different countries and represented a wide spectrum of care. Therefore, while the results should be confirmed with new studies, this study provides initial knowledge on dermatitis management in Latin America.

In conclusion, AD specialists in Latin America have commonalities and differences in AD management, which seem to be influenced by specialty type and health system characteristics in each country. New AD education strategies, that consider the region's particularities could allow patients to be more accurately managed. AD assessment tools may provide a way to enhance AD treatment and allow for shared decision making, patient empowerment, and standardized care.

Abbreviations

AD, Atopic Dermatitis; SLAAI, Latin American Society of Allergy Asthma and Immunology; LA, Latin American.

Funding

This article was funding for the Latin American Society of Allergy Asthma and Immunology (SLAAI).

Availability of data and materials

The information obtained is contained in the repositories of the Clinical and Experimental Allergology Group (GACE) of the Hospital "Alma Mater de Antioquia", University of Antioquia. It can be shared with prior institutional authorization.

Author contributions

Jorge Sanchez and Ivan Cherrez-Ojeda prepared the central idea. All authors contributed to the collection of information and writing of the manuscript.

Ethics approval

The protocol was submitted to the technical committee of the Alma Mater Hospital of the University of Antioquia who approved its implementation.

Authors' consent for publication

All authors accepted their participation and the publication of this article.

Declaration of competing interest

The authors declare that they have no conflicts of interest with this article.

Acknowledgements

We thank the Latin American Society of Allergy, Asthma and Immunology (SLAAI), Espíritu Santo University, and the Group of Clinical and Experimental Allergy (GACE), Hospital (Alma Mater de Antioquia), University of Antioquia for their logistical support.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.waojou.2023.100832.

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