

Patterns of pharmacological treatment in adult patients with atopic dermatitis

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SUMMARY

Background: Atopic dermatitis is a chronic inflammatory skin disease with an estimated prevalence ranging from 2-17% in adults. The current standards of pharmacological treatment in the real-world setting are unknown. Objective: To determine drug prescription patterns in the treatment of adult Colombian patients diagnosed with atopic dermatitis.

Materials and methods: This observational study analyzed prescription records of patients aged >18 years who were diagnosed with atopic dermatitis between January and December 2017. Sociodemographic and pharmacological variables (topical and systemic corticosteroids, calcineurin inhibitors, immunomodulators and antihistamines) and concomitant medications were evaluated.

Results: In total, 15839 patients were identified with a mean age of 43.5±25.8 years, mainly women (63.7%). A prevalence of atopic dermatitis of 0.3% in adults was estimated, with an incidence of 361.0 new cases/100.000 individuals during the study period. Topical corticosteroids were the most frequently prescribed medications (84.4%), followed by antihistamines (59.3%), systemic corticosteroids (32.6%), immunomodulators (1.7%) and calcineurin inhibitors (1.2%); 56.8% of patients received combination therapy.

Conclusions: Treatment of atopic dermatitis is infrequently reported in the country. It mainly affects adult women, and patients are treated predominantly with topical corticosteroids, either as a monotherapy or in combination with antihistamines and systemic corticosteroids for short periods of time.

KEYWORDS: Atopic dermatitis; Corticosteroids; Drug therapy; Eczema; Pharmacoepidemiology.

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PATRONES DE TRATAMIENTO FARMACOLÓGICO EN PACIENTES ADULTOS CON DERMATITIS ATÓPICA

RESUMEN

Introducción: la dermatitis atópica es una enfermedad cutánea inflamatoria crónica, con una prevalencia estimada entre el 2% y el 17% en adultos.

Objetivo: determinar los patrones de prescripción de medicamentos para el tratamiento de pacientes adultos colombianos con diagnóstico de dermatitis atópica durante el año 2017.

Material y métodos: se realizó un estudio observacional que analizó los registros de prescripción entre enero y diciembre de 2017, de pacientes con diagnóstico de dermatitis atópica, con edad mayor de 18 años. Se evaluaron variables sociodemográficas y farmacológicas (corticosteroides tópicos y sistémicos, inhibidores de la calcineurina, inmunomoduladores y antihistamínicos); además, los medicamentos concomitantes.

Resultados: se identificaron 15839 pacientes con dermatitis atópica, con edad media de 43,5±25,8 años y mayoría de mujeres (63,7%). Se estimó una prevalencia del 0,3% de adultos registrados en 2017 y una incidencia de 361,0 casos nuevos por cada 100.000 personas año. Los corticosteroides tópicos fueron los medicamentos más prescritos (84,4%), seguidos por los antihistamínicos (59,3%), los corticosteroides sistémicos (32,6%), los inmunomoduladores (1,7%) y los inhibidores de la calcineurina (1,2%). El 56,8% de los pacientes recibían terapia combinada.

Conclusión: la dermatitis atópica y su tratamiento son poco notificados en el país. Afecta principalmente a las mujeres adultas que son tratadas con corticosteroides tópicos, en monoterapia o combinados con antihistamínicos, y corticosteroides sistémicos durante cortos períodos. Los inmunomoduladores e inhibidores de la calcineurina son poco empleados.

PALABRAS CLAVE: Corticoesteroides; Dermatitis atópica; Eccema; Farmacoepidemiología; Tratamiento farmacológico.

INTRODUCTION

Atopic dermatitis (eczema) is a chronic inflammatory skin disease with a high prevalence in children. However, it affects adults as well, with an estimated prevalence in the United States ranging from 2-10%⁽¹⁻³⁾. Nevertheless, a prevalence of up to 17.6% has been reported, due to the wide range of criteria used for its classification and measurement^(2,4). Atopic dermatitis is characterized by the presence of dry skin and severe itching, which are usually associated with elevated serum levels of immunoglobulin E and a personal or family history of atopy, including asthma and allergic rhinitis^(3,5,6). Acute eczema is characterized by intensely pruritic erythematous papules and vesicles with exudation and crusting, while subacute or chronic lesions appear as erythematous, scaly, or excoriated papules. In several patients, lesions may present at different stages at the same time. Consequently, the clinical presentation and diagnosis are quite variable^(3,5,6).

Factors associated with the pathogenesis of atopic dermatitis include skin abnormalities in the epidermal barrier system, alterations in the innate and adaptive immune response, and changes in the resident microbiota of the skin, leading to this type of cutaneous dysfunction^(6,7).

The International Study of Asthma and Allergies in Childhood (ISAAC) and the National Health and Nutrition Examination Survey in the United States defined the diagnosis of atopic dermatitis as the presence of pruritic rash for at least six months, in addition to the presence of pruritic rash in the last year with a distribution of the papules in flexor areas^(2,8).

The treatment for atopic dermatitis should include a complete and multidisciplinary management approach that is focused on controlling the exacerbating factors, the restoration of skin barrier function, skin hydration,

and pharmacological therapy to reduce inflammation and that is supported by adequate instructions to the patient^(5, 9, 10).

The initial therapy depends on the severity of the disease. In cases of mild to moderate atopic dermatitis, topical corticosteroids such as hydrocortisone, topical calcineurin inhibitors such as tacrolimus, or other medications such as crisaborole (approved in 2016 in the United States, not in use in Colombia) are recommended. In patients presenting an adequate response, the intermittent use of these drugs and the proper management of exacerbations according to the disease severity are recommended to avoid relapse⁽¹⁰⁾.

In adult patients with chronic atopic dermatitis who do not respond to topical therapy, ultraviolet phototherapy or the use of systemic immunosuppressants, with cycles of oral cyclosporin, may be recommended^(5, 9, 11-13). Other second-line immunosuppressants have been used, such as methotrexate, azathioprine, mycophenolate, and a drug that has recently become available in Colombia, dupilumab, a human monoclonal antibody that inhibits the alpha subunit of the interleukin-4 receptor (recently approved by the U.S. Food and Drug Administration [FDA] and the European Medicines Agency [EMA])^(14, 15). Additional biologics are also under development, such as interleukin-31 inhibitors⁽¹⁵⁾.

The Colombian Health System offers universal coverage to all Colombians through two affiliation regimes, a contributory regime that is paid for by the employer and the worker and a State-subsidized regime, with a benefit plan including most of the usual drugs used to manage atopic dermatitis. However, non-subsidized medications may be prescribed through different legally-established mechanisms. In Colombia, descriptions regarding the prevalence of atopic dermatitis or the frequency of patients undergoing pharmacological treatment are unavailable. Therefore, a pharmacoepidemiological study is proposed to determine the prevalence of patients with this disease, as well as the treatment patterns in a Colombian population of patients affiliated with five healthcare insurers of the contributory regime of the Health System in 2017.

MATERIALS AND METHODS

An observational study of drug prescription patterns for the treatment of atopic dermatitis was proposed in an approximate population of 6.5 million people affi-

liated with the contributory regime of the Colombian Health System through five healthcare insurers. Drug claims data of the largest drug dispensing company (Audifarma S.A.) in Colombia were used. Prescription data were analyzed based on medications dispensed from January 1 to December 31, 2017, in all cities where Audifarma S.A. operates.

Each time a patient claims a drug, a dispensing record is created which also contains the associated diagnosis data. We included data on individuals diagnosed with atopic dermatitis according to the International Classification of Diseases (ICD)-10 codes ([L20] Atopic dermatitis; [L20.0] Besnier prurigo; [L20.8] Other atopic dermatitis and [L20.9] Atopic dermatitis, unspecified) who were receiving pharmacological treatment, aged greater than 18 years and of either sex. The data were processed by one of the medical researchers and validated by a pharmacologist. A database was designed to collect the following groups of variables:

- Sociodemographic variables: sex, age, and city.
- Clinical variables: diagnosis of atopic dermatitis.
- Pharmacological variables: Drugs dispensed along with their respective doses (for the quantification of the dispensation, the defined daily dose was used as a technical measurement unit). The following medications were considered: a) topical and systemic corticosteroids; b) calcineurin inhibitors; and c) immunomodulators (cyclosporine, methotrexate, azathioprine, mycophenolate). Other therapies: a) antimicrobials to control superinfections; and b) antihistamines. The treatment period was obtained (in days) for each systemic drug. The medical specialty of the prescriber and whether the medications were prescribed as a monotherapy or combination therapy were identified.
- Comedication: We searched the dispensation of the following concomitant medications for other pathologies: a) respiratory use (bronchodilators and antihistamines); b) antiepileptics; c) antidepressants; d) benzodiazepines; e) antipsychotics; f) antihypertensive and antianginal medications; g) antidiabetics; h) lipid-lowering agents; i) ophthalmic eye drops; and j) iron supplements.
- Adverse reactions: We searched for events regarding adverse reactions reported to the pharmacovigilance system of Audifarma S.A. for patients undergoing atopic dermatitis treatment who were included in the study.

Data analysis

The data were analyzed using the statistical package SPSS-25 for Windows (IBM Corporation, Armonk, NY, USA). Descriptive analyses were conducted, and the results are presented as frequencies and proportions for the categorical variables and measures of central tendency and dispersion for the quantitative variables. We estimated the prevalence of atopic dermatitis in the patients registered in the database (patients with a record of atopic dermatitis/susceptible population registered in the database). The percentages of patients receiving monotherapy or combination therapy were estimated for each drug. In addition, distributions were analyzed in subgroups stratified by age and sex. The duration of pharmacological therapy was estimated for patients receiving systemic therapy for atopic dermatitis.

Bioethical considerations

The protocol obtained the endorsement of the Bioethics Committee of the Universidad Tecnológica de Pereira, under the category “risk-free research”. The ethical principles established in the Declaration of Helsinki were respected. The personal data of the patients were not used under any circumstance.

RESULTS

We identified 15839 patients who were diagnosed with atopic dermatitis in 2017 and received some type of medication. The mean age was 43.5 ± 17.7 years, and women were more frequently diagnosed with this condition ($n=10097$; 63.7%). Patients resided in 80 different cities. A prevalence of adult patients receiving treatment for atopic dermatitis was established at 0.3%, with an incidence of 361.0 new cases per 100.000 users during the year of study.

The most frequently prescribed drugs for the management of atopic dermatitis were topical corticosteroids (83.3%), particularly betamethasone and hydrocortisone, followed by first- and second-generation antihistamines (59.2%), and systemic corticosteroids (29.4%). We observed low frequency of prescription for more specific topical medications, such as tacrolimus and systemic immunomodulatory therapies. **Table 1** shows the prescription patterns of different medications for the management of atopic dermatitis. Eighty-eight percent ($n=13938$) of the medications were prescribed by physicians in general practice services, 3.7% ($n=586$) by dermatologists, 1.9% ($n=300$) by general surgeons,

1.1% ($n=174$) by allergologists, and the remaining prescriptions (5.7%) by physicians in other specialties.

Notably, 6850 patients (43.2%) received monotherapy, mainly topical corticosteroids, while the remaining 8989 patients (56.8%) received a combination treatment, particularly a topical corticosteroid plus an antihistamine. **Table 2** shows the different drugs used as a monotherapy or combination therapy for the management of patients diagnosed with atopic dermatitis. **Figure 1** illustrates the distribution pattern of drugs administered as a monotherapy or combination therapy stratified by group.

Table 3 identifies the duration of systemic corticosteroid or immunosuppressant therapy. On average, prednisolone and deflazacort were used for 1.3 and 4.7 months, respectively, while parenteral corticosteroids such as hydrocortisone and dexamethasone were used for a single day. On average, systemic immunomodulators were administered for 3.6-7.4 months.

The most prevalent comedications were antihypertensive agents ($n=3035$; 19.2% of patients), particularly angiotensin II receptor antagonists ($n=1769$; 11.2%), β -blockers ($n=1187$; 7.5%), and calcium channel blockers ($n=1001$; 6.3%). In addition, other drugs used to treat cardiovascular conditions, such as statins ($n=2398$; 15.1%) and fibrates ($n=447$; 2.8%), or conditions associated with the endocrine system, such as metformin ($n=656$; 4.1%) and insulins ($n=270$; 1.7%), were identified. For neurological conditions, antidepressants ($n=1592$; 10.1%), anticonvulsants ($n=638$; 4.0%), benzodiazepines ($n=202$; 1.3%) and antipsychotics ($n=213$; 1.3%) were used. In addition, 7.6% ($n=1204$) of patients received drugs for pulmonary-type comorbidities, such as asthma or chronic obstructive pulmonary disease, iron supplementation ($n=541$; 3.4%) and ophthalmic eye drops ($n=763$; 4.8%).

During the observation period, 39.2% of patients received at least one antimicrobial agent, including penicillins ($n=2718$; 17.2%), cephalosporins ($n=2426$; 15.3%), fluoroquinolones ($n=1186$; 7.5%), tetracyclines ($n=873$; 5.5%), and macrolides ($n=521$; 3.3%). Diagnoses associated with the use of antibiotics were not identified.

The pharmacovigilance program of Audifarma S.A. did not identify any adverse drug reactions associated with the management of atopic dermatitis in the patients investigated in the present study.

Table 1. Drug prescription patterns for the management of atopic dermatitis in Colombian patients in 2017

Medication	n	%	Most used presentation	Mean dose (mg/day)	DDD	Female %	Mean age ± SD (years)
Topical medications							
<i>Corticosteroids</i>							
- Betamethasone	13200	83.3					
- Betamethasone	10063	63.5	Betamethasone, 0.05%/20 g cream	NA	NA	54.1	44.9 ± 20.3
- Hydrocortisone	4476	28.3	Hydrocortisone, 1%/15 g cream	NA	NA	56.5	45.2 ± 35.8
- Hydrocortisone-combined	507	3.2	Hydrocortisone/neomycin/colistin 0.5+5+1.53 mg	NA	NA	61.7	48.0 ± 18.6
- Desonide	93	0.6	Desonide, 0.05%/120 mL emulsion	NA	NA	67.7	49.8 ± 18.7
- Clobetasol	90	0.6	Clobetasol, 0.05%/25 g cream	NA	NA	52.2	51.5 ± 20.1
- Mometasone	45	0.3	Mometasone, 0.1%/15 g cream	NA	NA	55.5	52.0 ± 23.5
- Dexamethasone	7	0.04	Ketoconazole/dexamethasone/gentamicin 2+0.04+0.1%	NA	NA	42.8	57.6 ± 16.3
- Prednicarbate - combined	2	0.01	Prednicarbate, 0.1%/15 g gel	NA	NA	100	33.0 ± 22.2
<i>Calcineurin inhibitors</i>							
- Tacrolimus	164	1.0	Tacrolimus 0.1% ointment	NA	NA	54.9	47.3 ± 21.4
Systemic medications							
<i>Systemic corticosteroids</i>							
- Dexamethasone	4666	29.4					
- Dexamethasone	3092	19.5	Dexamethasone, 8 mg/2 mL solution	7.06 ^a	4.7	60.9	45.1 ± 18.1
- Prednisolone	1519	9.6	Prednisolone, 5 mg tab	21.1	2.1	57.6	46.9 ± 17.7
- Hydrocortisone	513	3.2	Hydrocortisone, 100 mg tab	214.7 ^a	7.1	61.8	47.8 ± 18.9
- Deflazacort	39	0.2	Deflazacort, 6 mg tab	21.2	1.4	58.9	53.8 ± 16.2

Medication	n	%	Most used presentation	Mean dose (mg/day)	DDD	Female %	Mean age ± SD (years)
<i>Immunomodulators</i>	274	1.7					
- Methotrexate	144	0.9	Methotrexate, 2.5 mg tab	8.9 ^b	0.51	56.9	56.3 ± 15.0
- Azathioprine	98	0.6	Azathioprine, 50 mg tab	98.9	0.65	47.9	40.4 ± 17.8
- Cyclosporine	33	0.2	Cyclosporine, 100 mg capsule	123.4	0.49	48.4	38.2 ± 15.2
- Mycophenolate	11	0.1	Mycophenolate, 500 mg tab	1349	0.67	27.2	38.9 ± 14.4
<i>Antihistamines</i>	9390	59.2					
- Loratadine	5849	36.9	Loratadine, 10 mg tab	17.3	1.73	56.4	44.2 ± 18.5
- Levocetirizine	133	0.8	Levocetirizine, 5 mg tab	5.7	1.14	59.4	50.3 ± 18.7
- Desloratadine	53	0.4	Desloratadine, 5 mg tab	7.6	1.52	69.8	55.8 ± 23.1
- Cetirizine	27	0.2	Cetirizine, 10 mg tab	11.6	1.16	33.3	54.1 ± 20.3
- 1 st generation antihistamines	5323	33.6	Chlorphenamine, 4 mg tab	NA	NA	57.4	47.2 ± 33.6

a Mean dose - mg per use.

b Weekly dose.

DDD: Defined daily dose; SD: Standard deviation; NA: not applicable; tab: tablet.

Table 2. Main drug associations used to manage atopic dermatitis in Colombian patients in 2017

Therapeutic combinations	n	%
Topical corticosteroid alone	4938	31.2
Topical corticosteroid + Antihistamine	4502	28.5
Topical corticosteroid + Antihistamine + Systemic corticosteroid	2594	16.4
Antihistamines alone	1503	9.6
Topical corticosteroid + Systemic corticosteroid	923	5.8
Antihistamines + Systemic corticosteroids	574	3.6
Systemic corticosteroid alone	382	2.4
Topical corticosteroid + Antihistamine + Systemic corticosteroid + Immunomodulator	58	0.4
Topical corticosteroid + Antihistamine + Immunomodulator	38	0.2
Systemic corticosteroid + Immunomodulator	37	0.2
Topical corticosteroid + Immunomodulator	37	0.2
Topical corticosteroid + Systemic corticosteroid + Immunomodulator	35	0.2
Topical corticosteroid + Tacrolimus + Antihistamine	32	0.2
Topical corticosteroid + Tacrolimus	28	0.2
Immunomodulator alone	27	0.2
Antihistamine + Systemic Corticosteroid + Immunomodulator	25	0.2
Topical corticosteroid + Tacrolimus + Antihistamine + Systemic corticosteroid	22	0.1
Tacrolimus + Antihistamine	21	0.1
Antihistamine + Immunomodulator	21	0.1
Topical corticosteroid + Tacrolimus + Systemic corticosteroid	16	0.1
Tacrolimus + Antihistamine + Systemic corticosteroid	6	0
Tacrolimus + Systemic corticosteroid	6	0
Tacrolimus + Systemic Corticosteroid + Immunomodulator	3	0
Topical corticosteroid + Tacrolimus + Antihistamine + Systemic corticosteroid + Immunomodulator	3	0
Tacrolimus + Antihistamine + Systemic corticosteroid + Immunomodulator	2	0
Topical corticosteroid + Tacrolimus + Antihistamine + Immunomodulator	2	0
Topical corticosteroid + Tacrolimus + Systemic corticosteroid + Immunomodulator	1	0
Topical corticosteroid + Tacrolimus + Immunomodulator	1	0
Tacrolimus + Systemic Corticosteroid + Immunomodulator	1	0
Tacrolimus + Immunomodulator	1	0

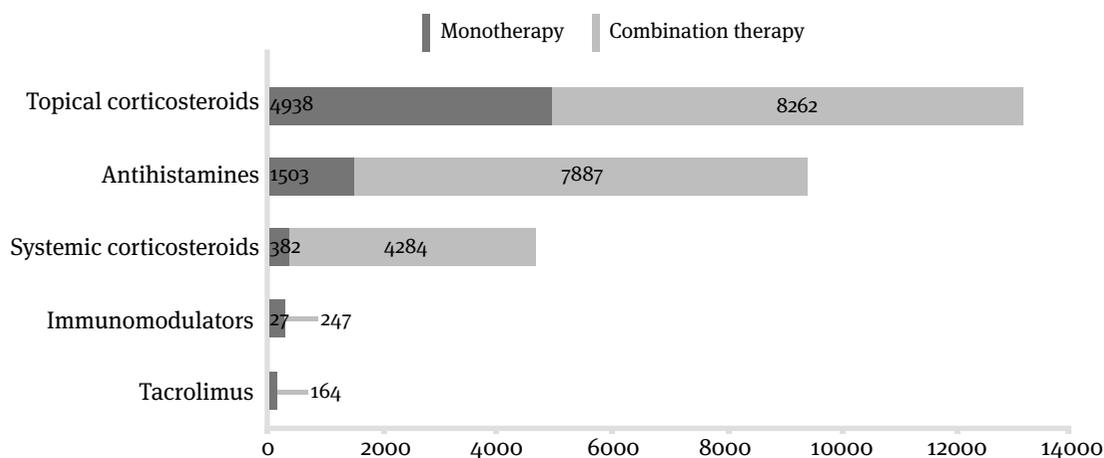


Figure 1. Frequency of prescriptions for monotherapy and combination therapy for the management of atopic dermatitis in Colombia in 2017.

Table 3. Duration of therapy with systemic medications for the management of atopic dermatitis in Colombian patients in 2017

Systemic medication	n	%	Days of therapy in the year of follow-up (mean)
<i>Corticosteroids</i>			
Dexamethasone	3092	19.5	1.1
Prednisolone	1519	9.6	38.9
Hydrocortisone	513	3.2	1.2
Deflazacort	39	0.2	141
<i>Immunomodulators</i>			
Methotrexate	144	0.9	177.7
Azathioprine	98	0.6	162.1
Cyclosporine	33	0.2	113.5
Mycophenolate	11	0.1	223.5

DISCUSSION

The present study was able to determine the pharmacological treatment patterns of patients with atopic dermatitis in a population affiliated with the contributory regime of the Colombian Health System. This study is the first to describe this condition in the country with the treatments administered, facilitating the process by which physicians, insurance companies, administrators and drug manufacturers will make informed decisions.

Different epidemiological reports have described a prevalence of atopic dermatitis ranging from 2 to 17% in adult patients⁽¹⁻³⁾. In a study conducted in Colombia, the prevalence of atopic dermatitis symptoms in adults was estimated at 11%⁽¹⁶⁾. However, the present study reports a much lower figure, which may be due to the following factors: first, the study designs are not totally comparable, considering that the previous data from Colombia relied on surveys asking for symptoms, and not for a established diagnosis or treatment. Second, our findings may also indicate a lack of diagnosis and subsequent pharmacological treatment in this population. Thus, physicians and decision-makers must design search, diagnosis, and management strategies to improve the medical attention of these patients.

The mean age of patients receiving treatment for atopic dermatitis differs from the value reported in Denmark by Egeberg et al. (43.4 vs. 39.8 years)⁽¹⁷⁾ and the value reported in the United States by Chiesa-Fuxench et al. (43.4 vs. 51.8 years)⁽¹⁸⁾. However, the higher prevalence in women was consistent with findings reported by multiple studies^(1, 2, 18-21).

Topical corticosteroids were the drugs that were most commonly prescribed for the pharmacological treatment of atopic dermatitis, similar to findings reported in Denmark (dexamethasone)⁽¹⁷⁾ and Malaysia (hydrocortisone)⁽²²⁾. These medications constitute the recommended first-line treatments for the management of mild or moderate atopic dermatitis⁽²³⁾. Note the low frequency of prescriptions for calcineurin inhibitors, such as topical tacrolimus, because they have been shown to be effective as second-line medications⁽¹⁷⁾. However, these drugs are not medications listed in the benefit plan of the Colombian Health System, and thus numerous patients do not have access to these drugs.

Single doses of systemic corticosteroids such as dexamethasone or hydrocortisone and short cycles of prednisolone were used to treat approximately one-third of the cases. This may be required when control with first- and second-line drugs is not achieved⁽²³⁾. However, recent guidelines (not available at the time of patient care during the study period) are restrictive regarding the use of corticosteroids, leaving them only for the most severe cases due to their unfavorable risk/benefit ratio⁽¹³⁾. In addition, some patients were administered deflazacort for a few months, which is not recommended because of the potential risks^(13, 23).

We observed a limited number of prescriptions for immunomodulatory therapies such as cyclosporine, mycophenolate mofetil, methotrexate or azathioprine, which are approved and recommended for cases of exacerbations or atopic dermatitis that are difficult to control, where a phase for acute management with systemic corticosteroids or cyclosporine is useful, fo-

Key points

- The patients analyzed were treated mainly with topical corticosteroids
 - The use of calcineurin inhibitors and immunomodulators was very limited
 - A high proportion of patients receive antihistamines, especially as combination therapy
 - One third of the patients received systemic corticosteroid therapy
-

llowed by a maintenance phase with other immunosuppressants⁽²³⁾. A significant proportion of patients require systemic therapy, as evidenced by the use of corticosteroids, which is not reflected in the low prescription pattern of immunomodulators, present in less than 1% of cases⁽²⁴⁾.

Antihistamines, mainly those with a greater sedative effect, have been frequently used as adjuvant drugs to control pruritus in patients experiencing relapses or exacerbations of atopic dermatitis⁽²³⁾. However, their long-term use has not affected the control of the disease, as revealed in a recent meta-analysis⁽²⁵⁾. Likewise, antihistamines have not been effective treatments for urticaria associated with atopic dermatitis⁽²⁶⁾. Notably, these drugs were used by approximately 60% of patients, particularly in combination with topical and systemic corticosteroids, and thus, published results should guide the way in which drugs are used to treat this condition.

Regarding comedications, those related to chronic cardiovascular diseases were the most frequent (antihypertensives, statins), followed by drugs for psychiatric disorders (especially antidepressants). Some studies have found a relationship between atopic dermatitis and increased risk of cardiovascular (stroke, unstable angina, heart failure, etc.)⁽²⁷⁾ and depressive disorders⁽²⁸⁾, indicating the need for a complete clinical evaluation that assess these pathologies in patients with atopic dermatitis and provide treatment accordingly.

The present study has several limitations inherent to the methodological design, such as the inability to estimate the severity of atopic dermatitis. The diagnostic criteria used by each physician are unknown and the use of recommended first-line therapies, such as moisturizing or emollient topical products, which are important in long-term management, or interventional therapies such as phototherapy, were unable to be established. In addition, we were unable to determine the effectiveness of the pharmacological treatment. The patients were affiliated with the contributory regime of the Colombian Health System; therefore, the results are only applicable to populations with similar insurance and care characteristics. We were also unable to determine the use of medications obtained outside the health system. The strengths of the study, such as the sample size and the reliability of the data source regarding the medication dispensed, are notable.

CONCLUSIONS

Based on our findings, we conclude that atopic dermatitis is a clinical condition that requires special attention, and it has a higher prevalence in women than in men. In particular, treatment consists of topical corticosteroids, either as monotherapy or in combination with antihistamines, and systemic corticosteroids for short periods of time. Immunomodulators and calcineurin inhibitors are rarely used and prescribers are usually general physicians. This study provides information for physicians and decision makers regarding the current pharmacological treatment of atopic dermatitis and may help optimizing therapy in order to improve health outcomes, control morbidity and increase the quality of life of the patients.

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