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Letter to the Editor

Trends in Atopic Dermatitis Management: A NAMCS Retrospective Analysis (2013-2019)

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The management of atopic dermatitis (AD) has significantly evolved over the past decade, guided by the 2014 American Academy of Dermatology (AAD) guidelines, which advocate for a stepwise approach emphasizing reduced reliance on topical corticosteroids (TCS) and increased use of steroid-sparing agents like calcineurin inhibitors (TCIs) and phosphodiesterase-4 (PDE4) inhibitors. This small study analyzed prescribing patterns for AD from 2013 to 2019 using data from the National Ambulatory Medical Care Survey (NAMCS). A total of 162 AD patients were categorized into four treatment groups: topical therapy only, immunosuppressant therapy only, adjunctive therapy, and other treatments. Chi-square analysis revealed a significant association between prescribing trends and year (χ^2 (15) = 38.85, p = 0.001), with a marked reduction in TCS use and increased prescriptions of TCIs and PDE4 inhibitors after 2016. These findings demonstrate a shift in clinical practice towards guideline-based care, reducing long-term reliance on TCS and favoring safer, steroid-sparing therapies to optimize patient outcomes.

To the Editor: Over the past decade, the management of atopic dermatitis (AD) has evolved with guidelines emphasizing a multifaceted and individualized approach. The American Academy of Dermatology (AAD) most recently updated their clinical guidelines addressing the safety and efficacy of AD treatments in 2023.[1] These recommendations advocate for a stepwise framework that considers disease severity, patient preferences, and comorbidities. Management begins with topical therapy for acute flares and escalates to systemic therapies as needed.[2]

Topical corticosteroids (TCS) remain the cornerstone of AD management, followed by steroid-sparing topical agents, such as topical calcineurin inhibitors (TCI) and phosphodiesterase-4 (PDE4) inhibitors. The AAD cautions against the general and long-term use of TCS and oral immunosuppressants and only recommends their use as a last resort when other treatments have failed.[1] This study analyzes the trends in prescribed treatment regimens for atopic dermatitis from 2013 to 2019.

The National Ambulatory Medical Care Survey (NAMCS), a cross-sectional survey of visits to nonfederal, ambulatory-based US physicians, was utilized to identify subjects who sought ambulatory treatment for AD from 2013 to 2019. AD patients were identified using the International Classification of Diseases, Ninth Edition (ICD-9) code 6918 and the International Classification of Diseases, Tenth Edition (ICD-10) code L209. Patients under the age of 15 and those without prescription management were excluded from the study. A total of 162 AD patients with active prescriptions were analyzed using STATA software.

A Chi-square test was conducted to assess the relationship between prescribed medication regimens for atopic dermatitis and the year of prescription. Four categories of medications were analyzed: topical therapy only, immunosuppressant (IMS) therapy only, adjunctive therapy, and other treatment only (Table 1). Prescriptions were further stratified by single-agent and multi-agent regimens and the medication type (Table 2,3).

The Chi-square test revealed a significant association between prescribed regimens and the prescribed year (χ^2 (15) = 38.85, p = 0.001), indicating that the distribution of prescribed regimens has changed over this time. The steady use of topical therapy, combined with a reduction in immunosuppressive therapy from 2016 onwards, reflects a shift in clinical practice towards standardized guidelines of care to reduce long-term adverse effects.

The preferred choice of topical agents prescribed in treatment regimens was also assessed. Figure 2 shows the proportion of patients prescribed each agent relative to the total number of patients per year. During this period, the use of TCS steadily decreased, while the use of TCI and PDE4 inhibitors increased, particularly after 2016. These trends reflect a growing preference for prescribing topical steroid-sparing agents over TCS.

In summary, this study demonstrates a significant shift in prescribing patterns for AD from 2013 to 2019. These findings suggest that treatment strategies for AD continue to evolve in response to emerging therapies and an improved understanding of the long-term effects of both topi-

Prescribed Regimen Categories and Medications Documented for Atopic Dermatitis Patients from 2013-2019

Topicals	***Topical corticosteroids (TCS)*** Triamcinolone acetonide Hydrocortisone Fluocinonide Mometasone furoate Clobetasol propionate Halobetasol propionate Betamethasone dipropionate Alclometasone dipropionate Desoximetasone Desonide ***Topical calcineurin inhibitors (TCI)*** Pimecrolimus Tacrolimus ***Topical phosphodiesterase 4 (PDE4) inhibitors*** Crisaborole	**Other Treatments** *Note*: Other prescribed medications are listed for completeness. Those solely on symptomatic, without prescription for TCS, TCI, PDE4 inhibitor, or an immunosuppressive, were included in the ***other treatment only category*** for analysis.	***Soaps/Cleansers**** Dove soap Free and Clear Anasept ***Emollients**** Cerave Aquaphor Aveeno Eucerin Atopiclair Minerin Epicream ***Topical Antibiotics**** Mupirocin Neomycin/polymyxin Triple antibiotic Benzoyl peroxide ***Oral Antibiotics*** Doxycycline Trimethoprim-Sulfamethoxazole Ciprofloxacin	***Antifungals**** Nystatin Clotrimazole Terbinafine Ketoconazole Econazole ***Antihistamines**** Diphenhydramine Promethazine Loratadine Desloratadine Cetirizine Fexofenadine Doxylamine Hydroxyzine ***Liquid Nitrogen*** ***Biologics***** Dupilumab Apremilast
Immunosuppressives	Prednisone Methylprednisolone Dexamethasone Methotrexate Cyclosporine			
Adjunctive Therapy	Regimen includes prescribed medications from both **topical** *and* **immunosuppressive** categories.			

Table 1 : This table summarizes the medication names prescribed for atopic dermatitis patients extracted from NAMCS data from 2013–2019.

* Availability of these over-the-counter medications did not permit trend analysis and grouped under "other", as prescribed for symptomatic treatment.

** Biologics, such as Dupilumab, were documented in too few cases to allow meaningful trend analysis. Listed for completeness.

TCS = topical corticosteroid, TCI = topical calcineurin inhibitor, PDE = phosphodiesterase

Table 1. "Prescribed Regimen Categories and Medications Documented for AD Patients from 2013-2019."

Table 2. "Prescribed Single-Agent and Multi-Agent Regimen Type"

Prescribed Medications	2013	2014	2015	2016	2018	2019
Single-Agent Topical Therapy	32	50	24	8	5	6
Multi-Agent Topical Therapy	0	0	0	0	3	2
Single-Agent Topical + IMS	3	2	5	1	1	0
Multi-Agent Topicals + IMS	0	0	0	1	0	1
IMS Only	3	3	2	1	0	0
Other (including those only on baseline & symptomatic therapy)	1	1	1	6	0	0
Patient Totals	**39**	**56**	**32**	**17**	**9**	**9**

cal and systemic corticosteroids, in alignment with the AAD guidelines.

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Table 3. "Prescribed Single-Agent and Multi-Agent Regimens Stratified by Medication Type"

Prescribed Medications	2013	2014	2015	2016	2018	2019
Single-Agent Topical: ≥1 TCS	32	50	23	8	5	4
Single-Agent Topical: TCI	0	0	1	0	0	1
Single Agent Topical: PDE4i	0	0	0	0	0	1
Multi-Agent Topicals: TCS + TCI	0	0	0	0	2	2
Multi-Agent Topicals: TCI + PDE4i	0	0	0	0	1	0
Single-Agent Topical TCS + IMS	3	2	5	1	1	0
Multi-Agent Topicals TCS/TCI + IMS	0	0	0	1	0	0
Multi-Agent Topicals TCS/PDE4i + IMS	0	0	0	0	0	1
IMS Only	3	3	2	1	0	0
Other (including those only on baseline & symptomatic therapy)	1	1	1	6	0	0
Patient Totals	**39**	**56**	**32**	**17**	**9**	**9**

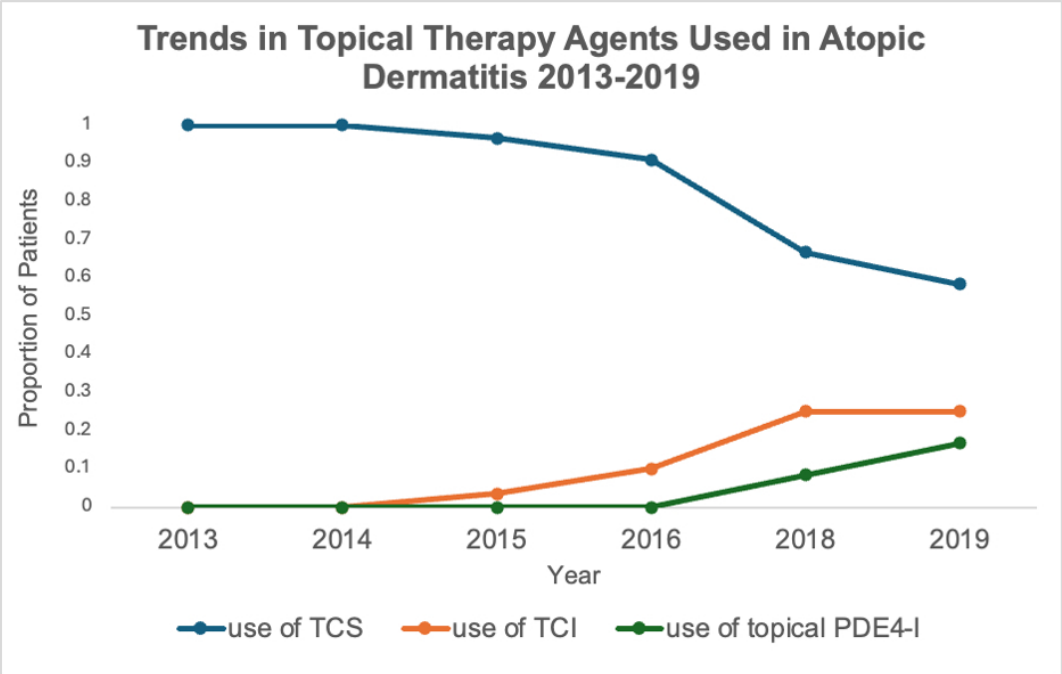

Figure 1: This graph depicts the trends in the use of three topical therapy agents prescribed for atopic dermatitis (AD)—topical corticosteroids (TCS), topical calcineurin inhibitors (TCI), and phosphodiesterase-4 inhibitors (PDE4-I)—from 2013 to 2019. The graph represents the proportions of patients prescribed each agent relative to the total number of patients for each year. Over this period, the use of TCS has steadily decreased, while the use of TCI and PDE4-I increased, particularly after 2016. These trends may reflect a shift in treatment approaches for managing AD, with more emphasis on newer therapies such as TCIs and PDE-4 inhibitors.

Figure 1. "Trends in Topical Therapy Agents Used in AD 2013-2019."

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PATIENT CONSENT

Not applicable.

REPRINT REQUESTS

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REFERENCES

1. Eichenfield LF, Tom WL, Berger TG, et al. Guidelines of care for the management of atopic dermatitis: section 2. Management and treatment of atopic dermatitis with topical therapies. *Journal of the American Academy of Dermatology*. 2014;71(1):116-132. doi:10.1016/j.jaad.2014.03.023

2. AAAAI/ACAAI JTF Atopic Dermatitis Guideline Panel, Chu DK, Schneider L, et al. Atopic dermatitis (eczema) guidelines: 2023 American Academy of Allergy, Asthma and Immunology/American College of Allergy, Asthma and Immunology Joint Task Force on Practice Parameters GRADE- and Institute of Medicine-based recommendations. *Annals of allergy, asthma & immunology: official publication of the American College of Allergy, Asthma, & Immunology*. 2024;132(3):274-312. doi:10.1016/j.anai.2023.11.009