doi:10.36849/JDD.9506

Journal of Drugs in Dermatology

Racial and Ethnic Disparities in Access to Advanced Therapies for Atopic Dermatitis in the United States

Katrina Abuabara MD,[a] Christopher G. Bunick MD PhD,[b] Lara Wine Lee MD,[c]
Ayman Grada MD MS,[d] Brian Calimlim DrPH MS,[d] Andrea Gelabert Mora MD,[e] Jeffrey Cizenski MD,[f]
Brenda Simpson MD,[f] Chibuzo Obi PharmD,[d] Rachel Goldberg PharmD,[d] Keith D. Knapp PhD,[g]
Breda Munoz PhD,[g] Anthony D. Perez PhD,[g] Julie M. Crawford MD,[g] Jonathan I. Silverberg MD PhD MPH[h]

[a]Department of Dermatology, University of California San Francisco, San Francisco, CA
[b]Department of Dermatology, Yale University School of Medicine, New Haven, CT
[c]Medical University South Carolina, Charleston, SC
[d]AbbVie Inc, North Chicago, IL
[e]Department of Dermatology, University of California– San Francisco, San Francisco, CA; Empire Dermatology, East Syracuse, NY
[f]El Paso Dermatology, El Paso, TX
[g]Target RWE, Durham, NC
[h]Department of Dermatology, George Washington University School of Medicine, Washington, DC

ABSTRACT

Background: Atopic dermatitis (AD) disproportionately affects diverse patient populations, and complex factors influence access to treatment among different racial and ethnic groups.
Objective: This study aimed to assess racial and ethnic differences in AD severity and access to treatment in clinical practice.
Methods: The study included patients aged 6 and older with AD enrolled in TARGET-DERM AD, an observational, longitudinal study utilizing electronic medical records from 43 academic and community centers across the United States.
Results: The analysis included 1,928 participants: 577 children (30%) and 1,351 adults (70%), with 42% identifying as Non-White. Non-Hispanic (NH) Asian participants exhibited the highest percentage of moderate-to-severe AD at 63%, followed by NH-Black (61%), Hispanic (49%), and NH-White (48%) participants. Over half (56%) of NH-Asian patients reported comorbid asthma. NH-Black and Hispanic individuals were less likely to receive advanced systemic therapies compared to NH-White individuals, with odds ratios of 0.71 and 0.66, respectively, both statistically significant ($P<0.01$).
Conclusion: Despite having moderate-to-severe AD, NH-Black and Hispanic patients had significantly lower odds of receiving advanced systemic therapy compared to NH-White patients, highlighting potential disparities in access to advanced treatments for AD.

J Drugs Dermatol. 2026;25(1):54-60. doi:10.36849/JDD.9506

INTRODUCTION

Atopic dermatitis (AD) is a chronic, systemic disease that impacts individuals of all ages, races, and ethnicities worldwide. It is strongly influenced by genetic, socioeconomic, and environmental factors and is associated with an increased risk of multiple comorbidities, including allergic and autoimmune conditions.[1] Despite growing interest and understanding of AD, evidence suggests that there are racial and ethnic differences in prevalence, disease severity, and treatment patterns in the United States. However, data on the distribution of comorbidities among racial and ethnic groups and their impact on management and treatment remain limited.[2] Additionally, non-white patients and those with comorbidities are underrepresented in clinical trials for advanced systemic therapies for AD.[3,4]

Systemic therapies play a significant role in the management of moderate-to-severe AD, particularly when topical treatments are insufficient or impractical.[5] Conventional systemic therapies include systemic corticosteroids, methotrexate, cyclosporine, mycophenolate mofetil, and azathioprine. Advanced systemic therapies, including injectable biologics and oral Janus Kinase inhibitors, are now approved and strongly recommended by the American Academy of Dermatology (AAD) guidelines for the management of AD.[5]

The objective of this study was to compare participant characteristics, disease severity and impact, comorbidities, and treatment type across racial and ethnic groups. Additionally, we sought to evaluate whether race/ethnicity was an independent predictor of advanced systemic therapy use.

MATERIALS AND METHODS

This cohort study assessed treatment patterns within the TARGET-DERM AD registry and compared enrollment characteristics across established racial and ethnic categories. The registry comprises an ongoing, IRB-approved, multi-center, observational cohort of patients diagnosed with AD

(NCT03661866).[6] Upon enrollment, patients consent to grant access to up to three years of their prior electronic health records (EHRs) and have the option to consent to completing patient-reported outcomes and providing biosamples. Health care providers document clinician-reported outcomes both at the time of enrollment and during subsequent visits.

Patients, Groupings, and Subsets

TARGET-DERM AD was launched on January 19th, 2019, and patients who were at least 6 years of age and enrolled through August 22nd, 2022, were eligible for inclusion in this analysis. Participants were categorized into one of the following racial/ethnic groups: Hispanic, Non-Hispanic (NH)-American Indian or Alaskan Native (NH-AIAN), NH-Asian/Pacific Islander (NH-API), NH-Black, NH-White, or some other race (SOR), based on the same classification system used by the US census.[7] The primary source was the patient's medical record; if this information was unavailable, data from a supplemental questionnaire were used.

Measures and Variables

Site staff and physicians recorded demographic characteristics, disease severity and impact, comorbidities, and treatment type at registry enrollment.

Disease severity was assessed using validated Investigator's Global Assessment for Atopic Dermatitis (vIGA-AD), total body surface area (BSA), and vIGA-AD x BSA (VxB), Patient Oriented Eczema Measure (POEM), and Patient-Oriented SCORing of Atopic Dermatitis (PO-SCORAD). Additional patient-reported outcome measures included: Children's Dermatology Life Quality Index (cDLQI), Dermatology Life Quality Index (DLQI), Numeric Rating Scale – Pain (NRS-Pain), Numeric Rating Scale – Sleep (NRS-Sleep), Patient Reported Outcome Measurement Information System (PROMIS) ItchMood and Sleep [adult], PROMIS Itch Questionnaire Child (PIQ-C), PROMIS Depression, PROMIS Pediatric Depressive Symptoms, PROMIS Anxiety, and Work Productivity and Activity Impairment (WPAI) questionnaire. Comorbidity data were collected from both the EHR and the supplemental patient questionnaire. Natural language processing was used to identify historical comorbid diagnoses from the EHR. PRO-consenting patients completed a supplemental questionnaire which asked if a patient has a prior diagnosis of comorbidities (attention-deficit or attention-deficit hyperactivity disorder, ADD/ADHD, Asthma, Anxiety, Cancer, Conjunctivitis, Depression, Diabetes, Hay Fever, High cholesterol, Hypertension, Obesity, Skin infections, Rheumatoid arthritis, Urticaria).

Medications

A comprehensive review of all AD-related medications recorded in the historical patient records over the past three years, up to and including the registry enrollment date (April 22, 2022), was conducted (Table 4). The records were assessed for prior use of topical calcineurin inhibitors (pimecrolimus and tacrolimus), topical corticosteroids (alclometasone, betamethasone, clobetasol, desonide, desoximetasone, fluocinolone, fluocinonide, flurandrenolide, fluticasone, halobetasol, mometasone, and triamcinolone), and topical phosphodiesterase-4 inhibitors (crisaborole). Systemic treatments were defined as those administered orally, via subcutaneous injection, intravenously, or by phototherapy. Specifically, conventional systemic immunosuppressive therapies included methotrexate, cyclosporine, mycophenolate mofetil, azathioprine, and/or phototherapy. Oral phosphodiesterase-4 inhibitors were apremilast and roflumilast. For this study, the advanced systemic therapy (AST) specifically considered was dupilumab. The choice to focus solely on dupilumab as the advanced therapy is due to its approval in 2017. Other ASTs, such as tralokinumab, upadacitinib, and abrocitinib, received FDA approval in close proximity to the analysis cutoff date (in December 2021 and January 2022, respectively) and consequently had limited utilization data available within the timeframe of this study.

Statistical Analysis

Demographic characteristics, disease severity and impact at enrollment, comorbidities at enrollment, and types of AD treatment were compared across racial and ethnic groups. For continuous variables, mean and median averages, standard deviation, range counts, minimum and maximum values, along with interquartile ranges were calculated. The Kruskal-Wallis test was used to compare groups. For categorical variables, frequencies and their corresponding percentages were calculated, and the Chi-square test or Fisher's Exact test were used to compare groups. The threshold of statistical significance was set at *P*-values < 0.05.

Ordinal logistic regression models were utilized to assess the association between racial/ethnic group (NH-Black, NH-API, Hispanic, and NH-White as reference) and advanced systemic therapy use at or prior to baseline, adjusting for participant characteristics by racial and ethnicity group (age, sex, geographic location, site type, insurance status; Table 1) and AD severity at baseline (vIGA-AD, BSA, and VxB; Table 2). Comorbidity data collected by questionnaire were considered in the analysis and included asthma, anxiety, depression, hypertension, infections, cancer, conjunctivitis, ADHD, hay fever, obesity, diabetes, high cholesterol, RA, and urticaria.

Rotated principal factor analysis addressed multicollinearity between vIGA-AD and BSA. Data management, descriptive statistics, and modeling were performed using SAS 9.4 (SAS Institute, Cary, NC), while R-Studio v. 1.4.1106 (2009-2021 RStudio, PBC) was used to create forest plots.

RESULTS

This cohort included 2,028 AD participants aged 6 years or older who were enrolled in the TARGET-DERM AD registry as of

TABLE 1.

Participant Characteristics by Racial/Ethnic Group

Summary	NH-White (N=1118)	NH-Black (N=251)	NH-Asian or Pacific Islander (N=271)	Hispanic (N=288)	All (N=1928)	*P*-value	American Indian or Alaska Native (N=12)
Age							
Mean (SD)	39 (22)	31 (20)	29 (16)	24 (18)	34 (21)	<.0001	24 (14)
Median (n)	36 (1118)	25 (251)	25 (271)	17 (288)	29 (1928)		25 (12)
Q1 - Q3 (IQR)	19-59 (40)	12-47 (35)	16-39 (23)	11-32 (21)	16-53 (37)		14-28 (15)
Age Category, n (%)							
N	1118	251	271	288	1928	<.0001	12
Children[1]	253 (22.6%)	100 (39.8%)	75 (27.7%)	149(51.7%)	577 (29.9%)		5 (41.7%)
Adult[2]	865 (77.4%)	151 (60.2%)	196 (72.3%)	139 (48.3%)	1351 (70.1%)		7 (58.3%)
Sex, n (%)							
n	1112	250	268	286	1916	0.0723	12
Female	637 (57.3%)	162 (64.8%)	146 (54.5%)	173 (60.5%)	1118 (58.4%)		5 (41.7%)
Male	475 (42.7%)	88 (35.2%)	122 (45.5%)	13 (39.5%)	798 (41.6%)		7 (58.3%)
Not Available	6 (1.0%)	1 (0.0%)	3 (1.0%)	2 (1.0%)	12 (1.0%)		0 (0.0%)
US Region, n (%)							
n	1109	249	267	288	1913	<.0001	12
Midwest	268 (24.2%)	45 (18.1%)	40 (15.0%)	118 (41.0%)	471 (24.6%)		2 (16.7%)
Northeast	535 (48.2%)	100 (40.2%)	139 (52.1%)	81 (28.1%)	855 (44.7%)		6 (50.0%)
Southeast	108 (9.7%)	83 (33.3%)	3 (1.1%)	25 (8.7%)	219 (11.4%)		1 (8.3%)
Southwest	110 (9.9%)	7 (2.8%)	6 (2.2%)	12 (4.2%)	135 (7.1%)		0 (0.0%)
West	88 (7.9%)	14 (5.6%)	79 (29.6%)	52 (18.1%)	233 (12.2%)		3 (25.0%)
Site Type, n (%)							
n	1118	251	271	288	1928	<.0001	12
Academic	429 (38.4%)	150 (59.8%)	80 (29.5%)	112 (38.9%)	771 (40.0%)		4 (33.3%)
Community	689 (61.6%)	101 (40.2%)	191 (70.5%)	176 (61.1%)	1157 (60.0%)		8 (66.7%)
Insurance, n (%)							
Medicaid	73 (6.5%)	68 (27.1%)	26 (9.6%)	133 (46.2%)	300 (15.6%)	<.0001	5 (41.7%)
Medicare	114 (10.2%)	16 (6.4%)	5 (1.8%)	11 (3.8%)	146 (7.6%)		0 (0.0%)
Other[3]	24 (2.1%)	13 (5.2%)	2 (0.7%)	18 (6.3%)	57 (3.0%)		1 (8.3%)
Private	778 (69.6%)	108 (43.0%)	222 (81.9%)	102 (35.4%)	1210 (62.8%)		5 (41.7%)
Uninsured[4]	129 (11.5%)	46 (18.3%)	16 (5.9%)	24 (8.3%)	215 (11.2%)		1 (8.3%)

[1] Age (6-17) are considered as children
[2] Age (18+) are considered as adults
[3] The private insurance category includes participants with private commercial insurance and those with "other" insurance. The majority of these patients have Tricare (a military and veteran insurance.)
[4] The uninsured insurance category includes participants with unknown insurance.

TABLE 2.

Atopic Dermatitis Severity at Enrollment by Racial/Ethnic Group

Summary	NH-White (N=1118)	NH-Black (N=251)	NH-Asian or Pacific Islander (N=271)	Hispanic (N=288)	All (N=1928)	*P*-value	American Indian or Alaska Native (N=12)
vIGA-AD at enrollment, n (%)							
n	1107	248	270	286	1911	<.0001	12
Clear	110 (9.9%)	16 (6.5%)	11 (4.1%)	19 (6.6%)	156 (8.2%)		0 (0.0%)
Almost clear	177 (16.0%)	23 (9.3%)	18 (6.7%)	43 (15.0%)	261 (13.7%)		1 (8.3%)
Mild	292 (26.4%)	57 (23.0%)	72 (26.7%)	83 (29.0%)	504 (26.4%)		3 (25.0%)
Moderate	402 (36.3%)	101 (40.7%)	117 (43.3%)	106 (37.1%)	726 (38.0%)		8 (66.7%)
Severe	126 (11.4%)	51 (20.6%)	52 (19.3%)	35 (12.2%)	264 (13.8%)		0 (0.0%)
BSA							
Mean (SD)	13 (19)	21 (24)	16 (21)	16 (22)	15 (21)	<.0001	19 (17)
Median (n)	5 (1028)	12 (231)	7 (232)	6 (265)	5 (1756)		18 (10)
Q1 - Q3 (IQR)	2 - 16 (14)	3 - 30 (27)	3 - 20 (17)	3 - 20 (17)	2 - 20 (18)		5 - 22 (17)
BSA sensitivity analysis, n (%)							
n	1028	231	232	265	1756	0.0002	10
<=10%	672 (65.4%)	115 (49.8%)	144 (62.1%)	165 (62.3%)	1096 (62.4%)		3 (30.0%)
>10%	356 (34.6%)	116 (50.2%)	88 (37.9%)	100 (37.7%)	660 (37.6%)		7 (70.0%)
POEM Category, n (%)							
n	798	149	171	172	1290	0.9423	6
Clear or almost clear	145 (18.2%)	22 (14.8%)	28 (16.4%)	27 (15.7%)	222 (17.2%)		0 (0.0%)
Mild	181 (22.7%)	35 (23.5%)	47 (27.5%)	41 (23.8%)	304 (23.6%)		0 (0.0%)
Moderate	299 (37.5%)	60 (40.3%)	62 (36.3%)	66 (38.4%)	487 (37.8%)		4 (66.7%)
Severe	134 (16.8%)	25 (16.8%)	28 (16.4%)	26 (15.1%)	213 (16.5%)		2 (33.3%)
Very severe	39 (4.9%)	7 (4.7%)	6 (3.5%)	12 (7.0%)	64 (5.0%)		0 (0.0%)
Total PO-SCORAD Score							
Mean (SD)	34 (20)	37 (21)	34 (18)	35 (21)	34 (20)	0.4217	45 (22)
Median (n)	31 (752)	33 (137)	31 (162)	33 (152)	31 (1203)		48 (6)
Q1 - Q3 (IQR)	19 - 46 (27)	21 - 48 (27)	20 - 45 (25)	17 - 48 (31)	19 - 46 (27)		24 - 67 (43)
Children's DLQI[1]							
n	175	61	44	84	364	0.4334	2
No effect at all	51 (29.1%)	23 (37.7%)	10 (22.7%)	16 (19.0%)	100 (27.5%)		1 (50.0%)
Small effect	57 (32.6%)	20 (32.8%)	11 (25.0%)	26 (31.0%)	114 (31.3%)		0 (0.0%)
Moderate effect	36 (20.6%)	9 (14.8%)	12 (27.3%)	23 (27.4%)	80 (22.0%)		0 (0.0%)
Very large effect	28 (16.0%)	7 (11.5%)	9 (20.5%)	16 (19.0%)	60 (16.5%)		1 (50.0%)
Extremely large effect	3 (1.7%)	2 (3.3%)	2 (4.5%)	3 (3.6%)	10 (2.7%)		0 (0.0%)
DLQI[2]							
n	578	82	123	81	864	0.2767	3
No effect at all	138 (23.9%)	15 (18.3%)	26 (21.1%)	20 (24.7%)	199 (23.0%)		0 (0.0%)
Small effect	190 (32.9%)	26 (31.7%)	32 (26.0%)	19 (23.5%)	267 (30.9%)		1 (33.3%)
Moderate effect	138 (23.9%)	16 (19.5%)	30 (24.4%)	20 (24.7%)	204 (23.6%)		0 (0.0%)
Very large effect	87 (15.1%)	18 (22.0%)	28 (22.8%)	15 (18.5%)	148 (17.1%)		2 (66.7%)
Extremely large effect	25 (4.3%)	7 (8.5%)	7 (5.7%)	7 (8.6%)	46 (5.3%)		0 (0.0%)

[1] CDLQI scoring: no effect at all (0-1 points), small effect (2-6 points), moderate effect (7-12 points), very large effect (13-18), extremely large effect (19-30 points)

[2] DLQI scoring: no effect at all (0-1 points), small effect (2-5 points), moderate effect (6-10 points), very large effect (11-20), extremely large effect (21-30 points)

TABLE 3.

Comorbidities by Racial/Ethnic Group

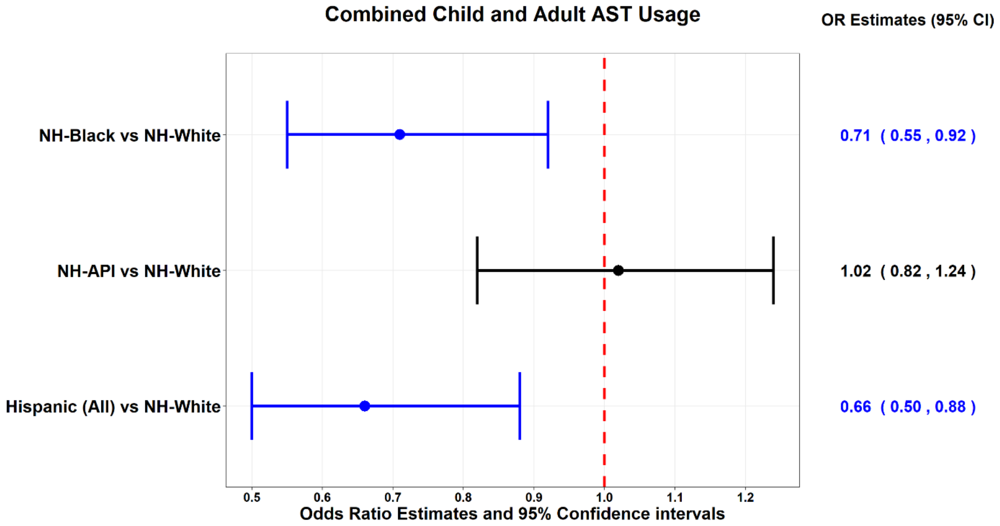
Summary	Race				All (N=1928)	*P*-value	American Indian or Alaska Native (N=12)
	NH-White (N=1118)	NH-Black (N=251)	NH-Asian or Pacific Islander (N=271)	Hispanic (N=288)			
Mean (SD)	2.33 (1.95)	2.12 (1.85)	1.53 (1.54)	1.51 (1.67)	2.07 (1.88)		1.42 (1.93)
Median (n)	2.00 (1118)	2.00 (251)	1.00 (271)	1.00 (288)	2.00 (1928)	<.0001	1.00 (12)
Q1 - Q3 (IQR)	1.00 - 4.00 (3.00)	1.00 - 3.00 (2.00)	0.00 - 2.00 (2.00)	0.00 - 2.00 (2.00)	1.00 - 3.00 (2.00)		0.50 - 1.00 (0.50)
Comorbidities, n (%)							
ADD/ADHD	4 (0.4%)	1 (0.4%)	2 (0.7%)	2 (0.7%)	9 (0.5%)	0.7865	0 (0.0%)
Asthma	558 (49.9%)	151 (60.2%)	152 (56.1%)	113 (39.2%)	974 (50.5%)	<.0001	6 (50.0%)
Anxiety	196 (17.5%)	20 (8.0%)	13 (4.8%)	15 (5.2%)	244 (12.7%)	<.0001	0 (0.0%)
Cancer	109 (9.7%)	19 (7.6%)	13 (4.8%)	11 (3.8%)	152 (7.9%)	0.0014	1 (8.3%)
Conjunctivitis	235 (21.0%)	41 (16.3%)	45 (16.6%)	49 (17.0%)	370 (19.2%)	0.1230	2 (16.7%)
Depression	199 (17.8%)	25 (10.0%)	15 (5.5%)	18 (6.3%)	257 (13.3%)	<.0001	1 (8.3%)
Diabetes	56 (5.0%)	17 (6.8%)	12 (4.4%)	15 (5.2%)	100 (5.2%)	0.6430	0 (0.0%)
Hay Fever	288 (25.8%)	59 (23.5%)	39 (14.4%)	59 (20.5%)	445 (23.1%)	0.0007	2 (16.7%)
Hypercholesterolemia	83 (7.4%)	10 (4.0%)	11 (4.1%)	8 (2.8%)	112 (5.8%)	0.0042	0 (0.0%)
Hypertension	204 (18.2%)	35 (13.9%)	25 (9.2%)	23 (8.0%)	287 (14.9%)	<.0001	0 (0.0%)
Obesity	62 (5.5%)	16 (6.4%)	8 (3.0%)	7 (2.4%)	93 (4.8%)	0.0413	0 (0.0%)
Skin Infections	315 (28.2%)	72 (28.7%)	45 (16.6%)	74 (25.7%)	506 (26.2%)	0.0011	3 (25.0%)
Rheumatoid Arthritis	40 (3.6%)	6 (2.4%)	2 (0.7%)	5 (1.7%)	53 (2.7%)	0.0422	0 (0.0%)
Urticaria	259 (23.2%)	61 (24.3%)	32 (11.8%)	37 (12.8%)	389 (20.2%)	<.0001	2 (16.7%)

TABLE 4.

Atopic Dermatitis-Related Treatment Use by Racial/Ethnic Group (up to April 22, 2022)

Summary	Race				All (N=1928)	*P*-value	American Indian or Alaska Native (N=12)
	NH-White (N=1118)	NH-Black (N=251)	NH-Asian or Pacific Islander (N=271)	Hispanic (N=288)			
Conventional Systemic Therapies, n (%)							
Any	240 (21.5%)	54 (21.5%)	58 (21.4%)	57 (19.8%)	409 (21.2%)	0.9381	6 (50.0%)
Methotrexate	49 (4.4%)	9 (3.6%)	7 (2.6%)	7 (2.4%)	72 (3.7%)	0.2979	1 (8.3%)
Cyclosporine	31 (2.8%)	6 (2.4%)	8 (3.0%)	10 (3.5%)	55 (2.9%)	0.8901	0 (0.0%)
Mycophenolate mofetil	7 (0.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (0.4%)	0.1655	0 (0.0%)
Azathioprine	3 (0.3%)	0 (0.0%)	0 (0.0%)	1 (0.3%)	4 (0.2%)	0.6694	0 (0.0%)
Systemic corticosteroids	168 (15.0%)	41 (16.3%)	46 (17.0%)	45 (15.6%)	300 (15.6%)	0.8567	3 (25.0%)
Phototherapy	30 (2.7%)	3 (1.2%)	4 (1.5%)	6 (2.1%)	43 (2.2%)	0.3886	3 (25.0%)
Advanced Systemic Therapies, n (%)							
Dupilumab	311 (27.8%)	49 (19.5%)	68 (25.1%)	48 (16.7%)	476 (24.7%)	0.0002	2 (16.7%)
Topical Therapies, n (%)							
Topical calcineurin inhibitors, topical corticosteroids, and/or topical phosphodiesterase inhibitors	558 (49.9%)	114 (45.4%)	122 (45.0%)	137 (47.6%)	931 (48.3%)	0.3583	8 (66.7%)

FIGURE 1. Adjusted odds ratios of a participants' likelihood of being treated with advanced systemic therapy (AST).



April 22, 2022. Of these, 88 participants (4%) were excluded due to missing race-ethnicity information. Among the remaining 1,940 participants, 40% were from academic sites, all affiliated with major tertiary care centers (Table 1). The community sites involved were all secondary care centers, such as dermatology or allergy referral sites.

Most participants identified as Non-Hispanic (NH) White (58%), followed by Hispanic (15%), NH-Asian/Pacific Islander (NH-API, 14%), NH-Black (13%), and Alaskan or American Indian (AIAN, less than 1%). Due to the small sample size (N=12) for AIAN participants, analysis was limited to descriptive statistics as it was insufficient for statistical inference.

The final dataset included 577 children aged 6-17 years (30%) and 1,351 adults aged 18 and above (70%). While most participants were from the United States, 82 were from Canada (4.3%, representing 3 sites).

Descriptive Statistics

Across all race-ethnicity categories, most patients were female, and the median age was 29 years (Table 1). NH-API and NH-White individuals had the greatest proportions of private insurance (82% and 70%, respectively), and were most likely to be enrolled in community practices (71% and 62%, respectively), as compared to the other racial/ethnic groups.

At enrollment, NH-API and NH-Black participants had the highest proportion of moderate-to-severe disease as assessed by clinicians (vIGA-AD, 63% and 61%, respectively). NH-Black participants had the highest median total BSA score of 12 (Table 2). There were no differences across racial/ethnic categories among the patient-reported outcomes of severity and impact (POEM, PO-SCORAD, DLQI, NRS-Pain, NRS-Sleep, PROMIS-Itch mood and sleep, PROMIS-Itch Scratching Behavior, PROMIS Depression, PROMIS Anxiety, and WPAI.

Regarding comorbidities, NH-White participants demonstrated the highest prevalence in 8 comorbidities: Anxiety, cancer, conjunctivitis, depression, hay fever, hypercholesterolemia, hypertension, and rheumatoid arthritis (Table 3). Over 51% of all patients had comorbid asthma, with the highest proportion among NH-Black participants (60%). No significant differences were found in the prevalence of ADHD/ADD, conjunctivitis, or diabetes. NH-White patients reported the highest proportion of cancer cases (9.7%, *P*<0.05).

Utilization of conventional topical and systemic treatments was similar across all racial and ethnic groups (Table 4). While the use of advanced topical therapies was also comparable, advanced systemic therapy (AST) usage varied by racial/ethnic group (Table 4): Hispanic subjects had the lowest proportion of dupilumab utilization at 17%, followed by NH-Black at 19%, NH-API at 25.1%, and NH-White at 25% (*P*<0.001).

The final list of comorbidities with meaningful associations, identified via backward selection, included anxiety, depression, cancer, and obesity. After adjusting for sex, age, region, treatment site type, insurance category, comorbidities (anxiety, depression, cancer, and obesity), and disease severity (vIGA and BSA), NH-Black and Hispanic patients were less likely than NH-White subjects to be treated with ASTs, with odds ratios of 0.71 and 0.66, CIs 0.55-0.92 and 0.55-0.88, respectively (Figure 1). Additionally, differences were also observed within insurance type: private insurance was associated with a greater likelihood of AST treatment, with private insurance participants having 71% greater odds of receiving AST treatment relative to uninsured participants (*P*=0.036).

DISCUSSION

Our study underscores the racial and ethnic differences in the burden and treatment of AD among a large and diverse cohort of children and adults treated at US community and academic centers. After adjusting for confounding factors, NH-White participants were significantly more likely to receive advanced systemic therapies than NH-Black and Hispanic participants. Socioeconomic factors likely influence access to advanced treatments; this aligns with previous studies demonstrating a racial and ethnic disparity in accessing newly approved and standard-of-care medical therapies in dermatology.[8] Our findings may underestimate racial and ethnic differences in disease severity because many clinician-assessed severity ratings rely on clinical signs (eg, erythema, xerosis, pruritus, and lichenification), some of which may be more challenging to assess in darker skin and therefore may result in underestimation of AD severity in patients with darker skin tone.[9]

While the TARGET-DERM AD cohort is diverse, it was not designed to be a representative US sample, and selection bias may be present. The largest proportion of TARGET-DERM AD sites are located in the Northeast (50.0%), followed by the West (25.0%) and the Midwest (16.7%). A common bias in real-world cross-sectional registry studies is that key patient subgroups might choose not to participate. Since January 1st, 2021, TARGET-DERM AD enrollment has focused on patients with either moderate-to-severe AD or having been exposed to at least one advanced systemic therapy, likely resulting in an elevated proportion of patients receiving systemic therapy compared to the general population. Furthermore, we did not evaluate the temporal relationship between disease severity and advanced systemic therapy; prospective data will help clarify this issue. Despite adjusting for insurance status in our models, residual confounding may exist, as newer advanced therapies may vary across insurance plans.

In conclusion, the cohort study offers valuable real-world data on underrepresented racial and ethnic groups often overlooked in clinical trials. Despite all participants having moderate-to-severe disease severity, NH-Black and Hispanic subjects were less likely to receive advanced systemic therapy than NH-White patients. The lower use of advanced systemic therapies in NH-Black and Hispanic patients, despite similarities in comorbidity burden, disease severity, and quality of life, indicates other social and environmental factors that may contribute to this disparity, warranting further investigation. Addressing these factors will be essential in improving outcomes for all patients with AD.

DISCLOSURES

KA is a consulting member for Target RWE and reports consulting/advising fees from Amgen, Apogee, Astria, Incyte Derm, Medidata, Nektar Therapeutics, and Sanofi; and research funding from Pfizer and Cosmestique International SNC to her University. LWL has received research funding from AbbVie, Amgen, Amryt Pharma, among others, and honoraria or fees from several companies, including Amryt Pharma, and Novartis. AG, BMC, RG, and CO are full-time employees of AbbVie Inc. and may hold its stock and/or stock options. AGM and BS have no conflicts of interest or financial relations to disclose. JC is a speaker for companies such as AbbVie, Amgen, and Regeneron. KDK, BM, JMC, and ADP are employees of TARGET RWE and may hold stock and/or stock options. JS has received honoraria as a consultant and/or advisory board member for numerous companies, including AbbVie, Alamar, Aldena, Amgen, AObiome, Arcutis, Arena, Asana, BiomX, Biosion, Bodewell, Boehringer-Ingelheim, Bristol-Meyers Squibb, Cara, Castle Biosciences, Celgene, Connect Biopharma, Dermavant, Dermira, Dermtech, Eli Lilly, Galderma, GlaxoSmithKline, Incyte, Kiniksa, Leo Pharma, Menlo, Novartis, Optum, Pfizer, RAPT, Recludix, Regeneron, Sanofi-Genzyme, Shaperon, Union, and UpToDate. He is a speaker for AbbVie, Eli Lilly, Leo Pharma, Pfizer, Regeneron, and Sanofi-Genzyme, and his institution has received grants from Galderma, Incyte, and Pfizer.

Funding sources: Target RWE is the sponsor of the study ClinicalTrails.gov (NCT03661866), funder of this analysis, and was involved in the development of the manuscript. AbbVie Inc. was a subscriber to Target RWE, participated in the writing of the final draft, and funded the submission of the manuscript.

IRB approval status: Reviewed and approved by WCG IRB on 11/5/2021; IRB Tracking Number: 20182865. ClinicalTrials.gov (or equivalent) listing (if applicable): NCT03661866

ACKNOWLEDGMENT

TARGET-DERM Investigators.

REFERENCES

1. Davis DM, Drucker AM, Alikhan A, et al. American Academy of Dermatology guidelines: awareness of comorbidities associated with atopic dermatitis in adults. *J Am Acad Dermatol.* 2022;86(6):1335-1336.
2. Croce EA, Levy ML, Adamson AS, Matsui EC. Reframing racial and ethnic disparities in atopic dermatitis in Black and Latinx populations. J *Allergy Clin Immunol.* 2021;148(5):1104-1111.
3. Kabakova M, Wang JY, Patel P, et al. Racial and ethnic representation in atopic dermatitis clinical trials. *J Drugs Dermatol.* 2025;24(4):360-364.
4. Bissonnette R, Jankicevic J, Saint-Cyr Proulx E, Maari C. Ethnicity, race and skin color: challenges and opportunities for atopic dermatitis clinical trials. *J Clin Med.* 2023;12(11):3805.
5. Davis DM, Drucker AM, Alikhan A, et al. Guidelines of care for the management of atopic dermatitis in adults with phototherapy and systemic therapies. *J Am Acad Dermatol.* 2024;90(2):e43-e56.
6. Abuabara K, Silverberg JI, Simpson EL, et al. International observational atopic dermatitis cohort to follow natural history and treatment course: TARGET-DERM AD study design and rationale. *BMJ Open.* 2020;10(11):e039928.
7. Perez AD, Hirschman C. The changing racial and ethnic composition of the US population: emerging American identities. *Popul Dev Rev.* 2009;35(1):1-51.
8. Bell MA, Whang KA, Thomas J, et al. Racial and ethnic disparities in access to emerging and frontline therapies in common dermatological conditions: a cross-sectional study. J Natl Med Assoc. 2020;112(6):650-653.
9. Kamp E, Wright W, Musbahi E, George S. Eczema assessment and severity index scoring in skin of colour. *Br J Dermatol.* 2022;187:26-26.

AUTHOR CORRESPONDENCE

Jonathan Silverberg MD PhD MPH
E-mail:................................... jonathanisilverberg@gmail.com